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THE MORE IMPORTANT RECORDS FOR MAY

By the fourth week in May egg hatching of the migratory grasshopper and the two-striped grasshopper was almost completed in the upper Great Plains region. Complete destruction of some fields of crops had occurred in the western part of the Dakotas and Nebraska and in eastern Montana and Wyoming. In the Southern Plains region hatching of the migratory range grasshopper also was practically complete. East of the Great Plains migratory grasshoppers were advanced to second-stage nymphs during the third week in the month in Michigan, central Wisconsin, and in parts of Minnesota and Iowa, and control operations are well under way at several points. In southern Missouri hatching was well advanced during the second week of May. In the Pacific Northwest the migratory grasshopper and the red-legged grasshopper were damaging wheat and alfalfa in Idaho during the first week in the month.

The heaviest infestation by the Mormon cricket ever recorded in South Dakota was reported during the second week in the month in Walworth County. This insect was also reported as very abundant in southern Tooele County, Utah, and in several counties in Nevada.

Very heavy flights of June beetles are reported from the East Central States. Damage to pecans by these insects is reported from the lower Mississippi Valley.

Damage by wireworms occurred very widely throughout the country. Heavy damage to tomatoes and watermelons by the sugar beet wireworm was reported from the San Joaquin Valley in California.

Very heavy infestation by grubs of Japanese beetle was reported from southeastern New York and northeastern Maryland.

The first adults of white-fringed beetle were collected in northern Florida on May 22. Larvae have caused serious damage to crops in limited areas this season. The first adult was taken in the New Orleans area on May 11. The first pupa of Naupactus sp. was found at Saucier, Miss., on April 29 and at Gulfport, Miss., on May 1.

In general, cutworms were subnormal in abundance during the month; however, the pale western cutworm appeared in outbreak numbers in western Kansas, where over 10,000 acres of wheat had been destroyed by the first week in May.

In the East Central States there was a general infestation by hessian fly in northern Indiana and northwestern Ohio.

Spring migration of the chinch bug to small grain started during the first week in May in Indiana, Illinois, western Missouri, in the three southern tiers of counties in Iowa, and in southeastern Nebraska and north-central Kansas during the third week in May.

The greenbug is generally prevalent throughout the Wheat Belt of Kansas and Oklahoma but little injury has occurred to wheat in Kansas, although oats and barley have been damaged in places. In Oklahoma oats were a complete failure in Kay County.

A somewhat heavy flight of armyworm moths was reported from Indiana during the second week in May. Some damage by armyworm is also reported from southeastern Missouri and from the Delta counties of Mississippi.

The wheat brown mite seriously damaged many fields of wheat in western Kansas and southwestern Oklahoma.

Corn ear worm damage is being reported from the South Atlantic and lower Mississippi Valley States. Pupae in hibernation cages in Illinois failed to pass the winter, but in the St. Louis area of Missouri a 23-percent survival occurred. Rather severe damage to corn was reported from southern California.

Pea aphids began to appear in the Middle Atlantic States early in the month, largely on clover and alfalfa. Severe damage to alfalfa was reported from the northern tier of counties in Indiana, in west-central and south-central Illinois, in southern Michigan and Wisconsin, and in eastern Kansas. Early in the month damage to vetch was recorded from the Willamette Valley of Oregon and some damage to cannery peas was reported from northwestern Oregon.

Tent caterpillars were doing considerable damage to fruit trees in Washington, Oregon, and California.

First adult codling moths of the season were taken on May 3 at Paducah, Ky., on May 6 in the Vincennes area of Indiana, on May 8 at Staunton, Va., and in southern Ohio, in northeastern Kansas and northwestern Missouri on May 10, and on May 19 in central Ohio.

Very heavy populations with considerable damage by the fruit tree leaf roller was reported from western Illinois and eastern Missouri.

Aphids attacking apple were abnormally abundant early in the month in New England ant the heaviest infestation in the last 10 years occurred during the latter part of the month in the Hudson River Valley. Heavy infestations also reported from western New York. From 10 to 30 percent of the apple crop in the Cornelia section of Georgia has been damaged by the rosy apple aphid. Increasing damage by this insect is also reported from the Vincennes area of Indiana. Apple grain aphid is very prevalent in Michigan and Wisconsin. In the latter State it is one of the most severe outbreaks ever observed.

Infestation by the plum curculio in the Fort Valley section of Georgia is heavier than usual. A fairly heavy drop of peaches is also recorded from the Cornelia section of Georgia. Increased abundance of this insect was reported from Kentucky, Illinois, Missouri, and Kansas.

Large pecan trees were completely defoliated by a tortricid, Cacoecia infumatana Zell., in southwestern Louisiana. This appears to be a new pecan pest.

Potato flea beetles were seriously damaging potato foliage late in the month in New York, Virginia, and Indiana. Heavy infestations were also reported from the Pacific Northwest.

The bean leaf beetle was generally prevalent along the south Atlantic seaboard and in the East Central States.

The pea weevil reached its peak of migration into fields on May 8 in Oregon and between May 13 and 15 in Washington and Idaho.

The pepper weevil was discovered in two additional counties in Florida--Charlotte and Hillsboro.

Flights of moths of the beet webworm were observed in the latter half of the month in Utah, Idaho, and Montana.

Large populations of beet leafhopper were reported in the Promontory Point breeding area of Utah. This is the heaviest infestation in the last 4 years for that area.

Heavy populations of overwintered cotton boll weevil were reported from South Carolina, Georgia, and Florida, with somewhat heavier emergence than last year in Louisiana and Texas.

A very unusual outbreak of cankerworms covers a wide belt from Ohio across Illinois and Indiana to South Dakota, Nebraska, and Kansas. Elms and unsprayed apples in many places are completely defoliated.

GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

General. W. E. Dove (May 26): In the Red River Valley areas of Minnesota and North Dakota, in eastern Montana and Wyoming, and in western North Dakota, South Dakota, and Nebraska, hatch of migratory grasshopper Melanoplus mexicanus Sauss. and two-striped grasshopper M. bivittatus Say is almost complete, while hatching of the big yellow grasshopper M. differentialis Thos. is just beginning. Rapid hatch and acceleration of development of young hoppers caused by warm, dry weather. Rapid movement from adjacent idle and range lands into cropped areas temporarily reduced by rains occurred during the week. Although average percentage of damage to crops in the northern Great Plains area remains small, some fields have been completely destroyed in parts of Wyoming, eastern Montana, and the western part of North Dakota, South Dakota, and Nebraska. Heaviest damage where grasshoppers hatched in fields in which the grain had been stubbled in. Hatching of migratory range grasshopper in the Texas Panhandle, Oklahoma, northeastern New Mexico, and eastern Colorado practically complete in some areas and less advanced in other areas of higher altitudes. A very small hatch occurred in the Mississippi Valley during the last week.

Michigan. R. Hutson (May 24): M. mexicanus seen throughout the Lower Peninsula. Second-stage nymphs observed in several places as far north as Roscommon. Camnula pellucida Scudd. observed hatching at Roscommon and in the southeastern counties. Ageneotettix deorum Scudd. is in the same stage of development in the same area as M. mexicanus.

Wisconsin. E. L. Chambers (May 22): M. mexicanus began hatching in the light-sand areas in the vicinity of Juneau County, central Wisconsin, on May 10, and control activities are being carried on in that county. Last spring hatching began about April 15.

Minnesota. A. G. Ruggles and assistants (May 20): Main hatch of M. mexicanus amounts to 8 percent in some spots and 100 percent in the Red River Valley. First hatch recorded on April 27. M. bivittatus second to M. mexicanus. Very few C. pellucida hatched to date. Hatching reported as started in Chisago, Otter Tail, Bennington, and St. Louis Counties.

Iowa. C. J. Drake (May 26): M. bivittatus and M. mexicanus hatching in large numbers, particularly along the Missouri Valley. Control operations in progress for 2 weeks, particularly near the larger cities. Semi-drought conditions favorable for young grasshoppers during the hatching period.

Missouri. L. Haseman (May 24): Hatch in the north-central part of Missouri delayed by the weather, and until the middle of May very little hatching had occurred in the northern tier of counties. Heavy hatch in places reported from southern Missouri 2 weeks earlier.

G. D. Jones (May 10): North-central Missouri is the area most heavily infested with eggs, according to the survey of last fall, which indicated that more than normal egg populations exist in every district where grasshoppers were abundant last year. Eggs held back in development owing to cool

weather. Reports indicate hatching of small brownish grasshoppers as starting last week in southern Missouri. In central Missouri eggs of the yellow grasshoppers about ready to hatch.

Nebraska. M. H. Swenk (May 18): Hatching started in such abundance during the second week in May that distribution of bait was begun in eastern and western Nebraska. Species concerned include chiefly M. bivittatus and M. mexicanus, with a lesser number of M. differentialis.

Oklahoma. C. F. Stiles (May 23): Dissosteira longipennis Thos. hatching in large numbers in Texas and Cimarron Counties, in the Panhandle. Control operations under way for 2 weeks. M. mexicanus reported as hatching in large numbers in the northern part of the Panhandle. M. confusus Scudd. generally distributed over the pasture land of the western half of the State, many having reached the adult stage, and damaging some pastures. Hatching of M. differentialis and M. bivittatus delayed, and nymphs not appearing in damaging numbers yet.

Montana. H. B. Mills (May 20): Practically a 100-percent hatch of eggs of M. mexicanus occurred from May 3 to 5, south of the Missouri River, in an area involving Richland, McCone, Garfield, Petroleum, Rosebud, Treasure, Custer, Prairie, and Dawson Counties. At the same time approximately 20 percent of the eggs had hatched north of the river, the hatch being about a week later than in the southern area.

Idaho. W. E. Shull (May 5): Populations of M. mexicanus and M. femur-rubrum Deg. considerably above normal in Nez Perce, Clearwater, and Latah Counties. Slight damage to wheat and alfalfa.

Utah. G. F. Knowlton (April 29): Nymphs becoming increasingly abundant throughout northern Utah. Most nymphs of Melanoplus sp. still in first instar, but in warm spots, second- and third-instar nymphs are common to abundant. Moderate numbers of early maturing species are now adults on range lands and fewer on farms. (May 9): Serious outbreak, covering 200 acres, reported at Redmond. (May 13): Warrior grasshoppers (C. pellucida) hatching in large numbers in some meadows west of Ephraim. Control operations starting in Sevier, Davis, and Utah Counties. (May 18): Crops being damaged at Rochester, Emery County, and flower-garden plants at Brigham. Damage to fields of alfalfa occurring at Green River.

Nevada. G. G. Schweis (May 19): Grasshoppers, particularly M. mexicanus, have hatched over considerable parts of central and western Nevada, and at present control operations are under way in Humboldt, Pershing, Churchill, Lyon, Nye, and Washoe Counties.

Arizona. E. R. Tinkham (April 28): Heavy infestation of M. mexicanus covering approximately 45 square miles, lies at the eastern base of the Galuiro Mountains in the Sunset region, 15 miles west of Bonita, Graham County. This is the fourth year of infestation and the infested area is increasing. Three distinct color phases of Aulocara elliotti Thos. found at Sunset, of which the grey phase predominates, attacking chiefly grama grass. Principal stages present were in the third and fourth instars.

Washington. L. G. Smith (May 5): M. mexicanus in the third instar observed on May 3 near Tiger, Pend Oreille County. Population about 1 to 10 per square yard, and probably one of the first hatches of 1939. Reported from Adams and Lincoln Counties on April 27; from Garfield County on April 29; and from Whitman County on May 1. (May 12): M. mexicanus observed in the first to fourth instars around Richland, Benton County, in small numbers attacking pasture land. (May 23): M. femur-rubrum found hatching from 500 to 600 per square yard in a ½-acre lot in West Ellensburg, Kittitas County. Average from 20 to 200 per square yard in other lots and in the first to third instars. M. mexicanus were hatching 50 to 60 per square yard in alfalfa near Goldendale, Klickitat County, on May 17, and from 40 to 50 per square yard in wheat bordering wheat and barley fields in the Goodnoe Hills. Some in the third instar. Grasshoppers observed in the first, second, and third instars on May 13 in scab-land grass at the edge of alfalfa near Amber, Spokane County, and found 20 to 30 per square yard in the third and fourth instars on May 15 in the edge of a wheatfield near Gardena, Walla Walla County.

California. L. A. Burtch (May 9): Unusually early hatch and intensity of infestation of the valley hopper Oedaleonotus enigma Scudd. necessitated intensive control measures in Kern County. Infestation heaviest ever seen by the writer. Considerable damage done to crops bordering grasslands, extending for a mile or two. Heavy infestations have occurred in the foothills east of Dolano, McFarland, Famosa, Lerdo, around the Edison orange groves and potato fields, and through the Arvin and Commanche Point sections, where there were the greatest losses and heaviest infestation in the county. Grasslands infested from the edge of the cultivated fields clear back to the mountains.

MORMON CRICKET (Anabrus simplex Hald.)

South Dakota. H. C. Severin (May 12): Damage to wheat and range grasses reported from Walworth County. Population built up during the last 10 years until now there is the largest population in the State ever observed.

Utah. C. J. Sorenson (May 21): Very abundant in southern Tooele County; beyond expectations based on egg survey of last fall.

Nevada. G. G. Schweis (May 19): Hatch normal for this area, and control operations now being carried on in Elko, Humboldt, Eureka, Lander, and Pershing Counties.

COULEE CRICKET (Peranabrus scabricollis Thos.)

Washington. L. G. Smith (May 12): Reported as abundant and localized in the Nespelem area, Okanogan County; in the third, fourth and fifth instars. Control operations under way.

EUROPEAN EARWIG (Forficula auricularia L.)

Idaho. W. E. Shull (May 5): Populations greatly increasing and area of infestation spreading in Latah County. Gardens attacked but damage not extensive.

Utah. G. F. Knowlton (April 29): Hatching during the last few days at Farmington. All young found still in the nest. Adults abundant. (May 17): One-hundred female Bigonichaeta setipennis Fall. shipped from Puyallup, Wash., on May 15 and released for control at Farmington on May 16. Found present near resi-

dences in the Cottonwood area, and at Holladay, Salt Lake County.

Washington. E. W. Jones (May 17): New brood prevalent in gardens at Walla Walla.

Correction: The note on this insect in the Insect Pest Survey Bulletin, October 1, 1938, page 575, from Alabama, is erroneous.

SAY'S STINKBUG (Chlorochroa sayi Stal)

Montana. H. B. Mills (May 14): More abundant in the Havre area than at this time last year.

JUNE BEETLES (Phyllophaga spp.)

Massachusetts. A. I. Bourne (May 23): First June beetles found during the evening of May 9. Much more abundant since that time on warm nights than at any time last year.

Virginia. M. P. Jones (May 6): Specimen of P. inversa Horn collected on screen door at Arlington on the night of May 5. (Det. by E. A. Chapin.)

Mrs. J. C. Miller (May 2): Specimens of P. fervida F. brought in from Brandy, Culpeper County. Reported as defoliating oaks in the vicinity and catalpa trees on the premises where collected. (Det. by E. A. Chapin.)

Ohio. N. F. Howard (May 16): First adult, a small species, seen flying today at Columbus.

Illinois. W. P. Flint (May 26): A moderate flight of June beetles now taking place, with rather large numbers appearing in the northwestern part of the State. No defoliation noticed.

Kentucky. W. A. Price (May 23): Early in May hordes of beetles stripped many chinquapin, bur, red, and pin oaks throughout the central blue-grass region. Species responsible for most of the injury was P. hirticula Knoch.

Wisconsin. C. L. Fluke (May 19): Number-two white grubs slow in reaching surface, some at 19-inch depths as late as May 10. Number-three grubs came up earlier. Grubs apparently less numerous than 3 years ago.

Mississippi. C. Lyle (May 23): May beetles, P. calceata Lec., reported as injuring pecans in Yazoo County.

Louisiana. O. I. Snapp (May 11): May beetles had completely defoliated a number of young pecan trees by May 11 at Minden, northwestern Louisiana.

Iowa. C. J. Drake (May 26): June bugs are emerging in fair numbers throughout the State. A survey of the species of Brood B is being made.

Missouri. L. Haseman (May 24): Since about May 10 three or four different species of June beetles have been abundant, particularly one rather large species.

A. C. Burrill (May 17): Rosebuds attacked at Jefferson City. First injury of year.

Kansas. H. R. Bryson (April 27): Abundant in most gardens, strawberry patches, and cultivated areas. Numerous enough at Junction City to cause some injury to wheat. May beetles have just begun coming to lights.

Utah. G. F. Knowlton and F. C. Harmston (May 18): Reported as causing considerable damage to fall wheat in Carbon County, especially in the area near Price.

WIREWORMS (Elateridae)

New York. N. Y. State Coll. Agr. News Letter (May 22): Apparently more numerous in Orleans County, western New York, than usual. Eastern field wireworms (Limonius ectypus Say) proving a considerable pest in several greenhouses in Monroe County, western New York. Evidence indicates that they are breeding in these locations.

North Carolina. J. U. Gilmore and W. A. Shands (April): Quantitative sampling of Monocrepidius spp. done on November 3, 1938, in a field of soybean stubble near Rocky Mount, an average of 1.2 wireworms per square foot being found by examining a 6-inch depth of soil in 10 square-foot samples taken at random. Thirty-two similar samples on March 27, after field had remained undisturbed during fall and winter, showed an average of 1.9 wireworms per square foot. Fields thoroughly plowed to a depth of about 6 inches soon after March 27, and on April 12, from 32 similar samples, there was found an average of 1.1 wireworms per square foot. Soil loose and rather dry on last sampling date and it seems probable that some wireworms were below the 6-inch depth of sampling. Sampling on first date confined to an area of 0.4 acre, while for the second and third dates original area extended to include 1½ acres.

Georgia. T. L. Bissell (May 19): Corn at Experiment, in a dates-of-planting test following Austrian peas, now attacked by wireworms, possibly Monocrepidius sp., of which 29 were found in 208 stalks.

Missouri. L. Haseman (May 24): A few scattered reports of serious damage to corn received from the north-central part of the State.

Nebraska. D. B. Whelan (April 27): Wireworms (Ludius sp., possibly L. aeripennis Kby.) found feeding in a grasshopper egg mass from York on April 21. Others of the same species found in similar locations on the same date, three being the most in any one capsule. Other wireworms, Limonius sp., taken from a wheatfield near Kimball. (Det. by A. G. Boving.)

Kansas. H. R. Bryson (April 27): Small wireworms, Aeolus dorsalis Say, numerous in a wheatfield at Junction City on April 24, but not causing injury.

Washington. H. P. Lanchester (May 17): Limonius californicus Mann. noted damaging sugarbeets near Lowden.

California. M. W. Stone (May 20): Tomato plantings in Orange County thinned out considerably during May from attack by L. californicus. In a 10-acre field

near Santa Ana over 54 percent of the plants were killed, and in a 6-acre planting near Stanton over 38 percent of the stand was replanted. Lima beans planted early in May also damaged extensively. In parts of a 60-acre planting near Santa Ana every seed examined was infested with from 1 to 9 larvae, and an average of 5 larvae obtained per foot of row. Damage in the 60-acre planting of melons near Downey, Los Angeles County, continues. Between April 14 and May 18 the number of plants in 86 hills was reduced from 344 to 109.

R. E. Campbell (May 1): Many watermelon fields in southern Fresno County, central California, being damaged by L. canus Lec. In a typical 20-acre field the infestation was scattered, except in one corner where over 2 acres were almost completely denuded of plants. Counts on 5 plants showed from 16 to 48 wireworms attacking a single plant, averaging 26 per plant. Field had been replanted 4 times, 4 acres being abandoned and planted to kafircorn.

JAPANESE BEETLE (Popillia japonica Newm.)

New York. N. Y. State Coll. Agr. News Letter (May 15): Situation serious in Westchester County. To determine a cross section of the county a square foot of turf was taken up from 90 areas in April and grubs counted. Number per square foot was from 29 to 83, averaging 61.

D. M. Daniel (May 29): In 78 diggings in Westchester County from April 11 to 22, 1,289 grubs were found; average per square foot for county was 16.5. Diggings in central New York from May 8 to 24 revealed larvae at Elmira, Waverly, Oswego, Binghamton, and Brighton; none at Mount Morris.

New Jersey. E. Kostal (May 2): Grubs abundant in the upper 4 inches of soil at Morganville, Monmouth County, especially in sod. Lawns are showing some damage from feeding last fall.

Maryland. E. N. Cory (May 9): Spinach was being destroyed by grubs as fast as it sprouted at Bradshaw, Baltimore County; two plantings already destroyed. Grubs present in the parts of the field dug at the rate of 8, 7, and 5 per square foot. Apparently the first record in Maryland of injury to roots of a vegetable crop.

A WEEVIL (Calomycterus setarius Roelofs)

New York. Eileen B. Rabbitt (May 2): Flowers raised in southern Dutchess County on land uncultivated until 2 years ago were practically destroyed. Most of the flowere eaten down to the roots, with the exception of petunias and marigolds. (Det. by L. L. Buchanan.)

ASIATIC GARDEN BEETLE (Autoserica castanea Arrow)

Connecticut. E. P. Felt (May 23): Grubs somewhat abundant in lawns at Stamford.

New York. D. M. Daniel (May 29): Larvae found, while digging for the Japanese beetle, mostly in the southern end of Westchester County.

WHITE-FRINGED BEETLE (Naupactus leucoloma Boh.)

Florida. H. C. Young and assistants (May 22): First adult taken near Svea, Okaloosa County, on May 22. First adult taken on May 25 in 1938. Very few pupae found but many larvae are full grown and have begun to prepare cells. Larvae have caused serious damage to crops in limited areas this season.

Louisiana. B. A. App and S. J. Snow (May 22): First adult taken at New Orleans on May 11. In 1938 first adult taken on May 14. On May 11 in the warmer soils 13.5 percent of the larvae had pupated but no pupae were found in the heavy clay soils.

A WEEVIL (Naupactus sp.)

Mississippi. J. B. Gill (May): First pupa of Naupactus sp. taken at Saucier on April 29 and at Gulfport on May 1. In 1938 the first pupa was taken on May 6. First adult taken on May 17, 1939, as compared to May 26 in 1938. Only an occasional pupa could be found on May 15. Larvae have damaged a wide range of field and truck crops during this spring in the Gulfport area.

FALSE WIREWORMS (Eleodes spp.)

Kansas. H. R. Bryson (May 17): Abundant in western Kansas. Many larvae reported as having pupated around May 1; beetles out in Rice County.

CUTWORMS (Noctuidae)

Virginia. A. M. Woodside (May 22): Cutworms have been damaging onions in Augusta County, entering the hollow leaves and feeding inside.

Ohio. T. H. Parks (May 18): Specimens of bronze cutworm Nephelodes emmedonia Cram. received with the report that they were killing bluegrass pasture at New Philadelphia. A trip to Licking County, where it was so abundant last year, produced only 10 larvae in 30 minutes' search. A disease wiped them out of this area last year. (May 22): Some injury to grape buds from climbing cutworms occurred early in May in Franklin and Erie Counties. No injury to fruit trees reported.

Michigan. R. Hutson (May 24): Collections at St. Joseph, Coloma, Niles, Eau Claire, Fennville, Grand Rapids, Muskegon, Shelby, Howell, Mount Clemens, and Detroit indicate these pests as not yet particularly numerous.

Iowa. C. J. Drake (May 26): Not reported as very abundant this year.

Missouri. L. Haseman (April 27): Until April 26 very few authentic reports received from any part of the State, and at Columbia examinations indicate a scarcity of cutworms this spring.

Nebraska. M. H. Swenk (May 18): Reported as attacking sweetpotato plants in Thayer County on May 1, and wheatfields and barley fields in Dundy County on May 10.

D. B. Whelan (May 18): Dusky cutworm (Feltia venerabilis Walk.) was cutting off young string-bean plants at Lincoln on May 14.

Kansas. H. R. Bryson (May 27): Pale western cutworm (Agrotis orthogonia Morr.) reported in an outbreak in western Kansas on May 5. It has killed approximately 10,000 acres of wheat. On May 23 scarce, except for the outbreak mentioned above. Injury to garden crops reported in some localities. One species observed to be abundant in gardens in Jewell County on May 20.

H. H. Walkden (May 6): Extensive damage to wheat and barley by pale western cutworm in Rawlins and Thomas Counties; moderate damage in Logan, Gove, and Sheridan Counties; and some damage in Scott, Lane, and Ness Counties. Damage also reported from Meade County. No damage in Rush County where a severe outbreak occurred in 1937-38.

Texas. R. K. Fletcher (May 22): Damage light, judging by the few requests for control information.

Utah. G. F. Knowlton (May 24): Reported as abundant in some alfalfa fields at Lewiston and Cornish on May 5; as cutting off leaves of ferns in a flower garden at Logan on May 22; and as cutting off nearly half of some tomato plants the first night they were set out in a garden at Logan.

G. F. Knowlton and F. C. Harmston (May 18): Causing severe injury to corn in the Green River area of Emery County.

Nevada. G. G. Schweis (May 19): Reported in epidemic numbers in Nye and Pershing Counties.

Washington. C. E. Woodworth (May 8): Several species of cutworm moths very troublesome entering houses at Walla Walla.

L. G. Smith (May 23): Moths appeared about May 5 in great numbers in Pasco and vicinity and are appearing in all buildings, probably throughout Franklin County. Appearance expected because of great numbers of cutworms on the range.

AN ARCTIID (Callarctia phyllira Drury)

Alabama. J. M. Robinson (May 20): Specimens just received of larvae which were devouring cotton and corn plants in the field at Miller's Ferry, Wilcox County. (Det. by H. W. Capps.)

SPITTLEBUGS (Cercopidae)

New York. N. Y. State Coll. Agr. News Letter (May 22): First observed on May 16 in western Suffolk County on pine and chrysanthemums. Observed in strawberry beds in some sections of the State during the last few weeks. Now nymphs and characteristic masses of spittle are evident.

Pennsylvania. H. E. Hodgkiss (May 18): Observed on clover in Lancaster County on April 19. Large numbers of nymphs in first and second instars.

E. J. Udine (May 30): Several inquiries received, 5 to 6 nymphs per stem of alfalfa reported as common near Newville. Also found on wheat and various weeds in more than usual numbers near Carlisle.

Maryland. E. N. Cory (May 19): Reported on alfalfa, clover, and weeds at Gambrells, Easton, and Hagerstown.

Gertrude Myers (May 27): Abundant near Rockville.

Missouri. A. C. Burrill (May 17): Noted on grasses at Jefferson City, at a rate of from 3 to 6 spittle masses per square yard of herbage. (May 25): Infestation has increased to 6 to 22 spittle masses per square foot. Much bedstraw in Jefferson since the drought of 1936, and single strands run 4 to 6 masses per strand.

Washington. L. G. Smith (May 12): Infested strawberry plant brought in by a farmer from Snohomish County on May 9.

COMMON RED SPIDER (Tetranychus telarius L.)

Maryland. E. N. Cory (May 22): Reported on evergreens and strawberries at Pikesville and Emmitsburg.

Virginia. H. G. Walker and L. D. Anderson (May 27): Rather serious damage caused in some strawberry fields in the Norfolk area. Somewhat abundant on ornamental plants in some areas.

South Carolina. W. C. Nettles (May 22): Reported on firethorn in Sumter County.

Georgia. T. L. Bissell (May 10): Abundant on wild geranium and some on vetch at Clarkston, central Georgia; getting into nearby raspberries.

Florida. J. R. Watson (May 23): Abundant on many plants including cotton.

Mississippi. C. Lyle (May 23): Infested arborvitae, bean, and fern plants received from Calhoun, Harrison, Monroe, and Montgomery Counties.

Texas. R. L. McGarr (May 6): Observed doing damage in four fields of cotton at Port Lavaca, and in one field of cotton at Robstown, both in Calhoun County.

Oregon. H. E. Morrison (May 8): Seasonal development 7 weeks in advance of the 1938 season in the Willamette Valley. Light infestation on hops.

C E R E A L A N D F O R A G E - C R O P I N S E C T S

WHEAT AND OTHER SMALL GRAINS

HESSIAN FLY (Phytophaga destructor Say)

General. C. Benton (April 20): Pupation started near La Fayette, Ind., about April 1. Dissections made on April 19 showed 32 live pupae present in 100 puparia. No emergence of the flies has been observed. A spring survey of

fall-sown wheat was made from March 7 to April 5, covering 483 fields in 80 counties of Indiana; 34 fields in 4 southeastern Illinois counties; 22 fields in 4 northwestern Ohio counties; and 14 fields in 2 south-central counties of Michigan. In the area covered the 2 sections showing the most general infestation by the fall brood were northwest-central and northeastern Indiana and adjacent counties in northwestern Ohio. In these areas many fields were heavily infested, with thinned stands of wheat in poor condition of growth.

Ohio. T. H. Parks (May 22): No serious damage to wheat is anticipated in any part of the State.

Indiana. C. Benton (May 22): Pupae were found throughout April. First fly emergence and egg laying occurred on April 26. The crest of fly emergence and egg laying, first week of May, gradually decreased until May 22. First small larvae found on May 3. Mostly half-grown larvae, with a few full-grown, were found by May 20 in wheat. About 10 percent of overwintered puparia still contained viable larvae not pupated on May 20.

Kansas. E. T. Jones (May 26): Of 17 wheatfields examined on May 24 in Geary, Dickinson, and Marion Counties infested plants were found in 15. Based on samples of 50 stems each, average infestation per field was 9.7 percent, ranging from 2 to 30 percent, with an average of 3.7 puparia per infested stem. No injury apparent.

CHINCH BUG (Blissus leucopterus Say)

South Carolina. W. C. Nettles (May 22): Present but less abundant than formerly in Chester County. Of 10 small-grain fields surveyed, only 2 had corn planted adjacent, which apparently will help protect the corn.

Indiana. C. Benton (May 23): Spring migration to small grains started about May 1 and was practically completed by the middle of May. First mating observed in the field on May 9. By May 20 more than 50 percent found mating. Present numbers found in small-grain fields near La Fayette show a few spots in thin winter wheat and rye, with enough old bugs to produce a light-to-moderate infestation with continuation of present favorable dry-field conditions. No eggs or nymphs were observed.

Illinois. W. P. Flint (May 26): Scattered reports of infestation are coming in. Infested fields widely separated in most areas, the worst infestations occurring in heavily pastured rye.

Iowa. C. J. Drake (May 26): Very abundant in the three southern tiers of counties of the State, and here and there, infestation extends into the fourth tier. Weather conditions favorable this spring for the bugs to move from winter quarters to the small-grain fields.

Missouri. L. Haseman (May 24): Scattered reports, particularly from west-central, southwestern, and northwestern Missouri, indicate some rather heavy infestations, but the infestation is not general throughout the State.

G. D. Jones (May 10): Reported in considerable numbers in the southern, western, and northern parts of the State. Most general and heavy infestation

found in the northwestern area. Cool spring has kept them in hibernation longer than usual, and movement to grainfields evidently took place only recently. Fall survey indicated localized infestation similar to last year.

Nebraska. M. H. Swenk (May 18): Chinch bugs were flying early in May, especially during the period from May 6 to 14, in southeastern Nebraska northwest to Lancaster and Saline Counties. Injury to barley, rye, and wheat reported since May 8 in this area.

Kansas. H. R. Bryson (May 27): Reported as abundant on May 10, in some wheat-fields in Nemaha County. From 8 to 12 bugs per square foot were counted in 1 field. Numerous in Smith, Cloud, Republic, Saline, and Dickinson Counties, north-central Kansas.

GREEN BUG (Toxoptera graminum Rond.)

Missouri. L. Haseman (April 27): No complaints received.

Kansas. E. T. Jones (May 26): Numerous infestations of aphids were noted on May 24, on wheat and oats in Geary, Dickinson, and Marion Counties. Some injury observed. Predators also numerous.

H. R. Bryson (May 23): Present all over the Wheat Belt in Kansas. In most localities no injury to the wheat, but injury to barley is common. Serious damage to oats and winter barley in southern Kansas and to spring barley in northwestern Kansas.

Oklahoma. F. A. Fenton (May 22): The outstanding insect infestation during the last month seems to be the green bug. Infestation apparently most severe in Kay County, centering around Ponca City, but extends from this county in all directions. Wheat crop now beyond the point of serious injury and, as a whole, injured very little. Oat crop in that section almost a total loss, and a great deal of corn destroyed.

Texas. R. K. Fletcher (May 8): Taken from wheat in Dallas County. (Det. by P. W. Mason.)

PLANT BUGS (Miridae)

Montana. H. B. Mills (May 20): Labops hirtus Knight found injuring wheat adjoining range land in the Reese Creek area, northern part of Gallatin County.

Washington. R. D. Shenefelt (May 16): At Pullman Thyrillus pacificus Uhl. was attacking a strip of wheat about 20 feet wide by 300 feet in length. Apparently increasing.

ARMYWORM (Cirphis unipuncta Haw.)

Virginia. H. G. Walker and L. D. Anderson (May 27): Very scarce this spring at Norfolk, only one grower having reported injury, and the infestation was very light.

Indiana. L. F. Steiner (May 11): A rather heavy flight of adult armyworms to codling moth baits during the last 10 days in the Vincennes area.

D. W. La Hue (May 23): Large numbers of moths taken in a light trap at La Fayette on May 9.

Missouri. G. D. Jones (May 10): Reported to be in localized spots in southwestern Missouri on May 5. Not apparent in serious numbers but conditions favorable. No moths observed at Columbia.

L. Haseman (May 24): Reported from the southeastern part of the State that the first young were observed on May 13 in wheat and wild grasses and that a few moths were taken in codling moth traps a few days earlier. No infestation of any consequence.

Mississippi. C. Lyle (May 23): A light outbreak occurred during the last month on oats in Washington, Sunflower, Leflore, and a few other Delta counties. First specimens reported from Sunflower County on about April 24. Control measures used.

FALL ARMYWORM (Laphygma frugiperda A. & S.)

Mississippi. C. Lyle (May 23): Larvae received from Wayne County, where they were feeding on corn. Infestations light.

WHEAT WHITE GRUB (Phyllophaga lanceolata Say)

Kansas. H. R. Bryson (May 24): Abundant in wheat in south-central Kansas.

Oklahoma. C. F. Stiles (May 23): A beetle, probably P. lanceolata, reported as damaging cotton in Cotton County. Beetles were emerging from a nearby wheat-field.

MITES (Acarina)

Kansas. H. H. Walkden (May 6): Wheat brown mite has seriously damaged many fields of winter wheat in Rawlins and Thomas Counties, western Kansas. A few fields are practically a total loss. No barley fields observed as damaged but mites numerous on some plants.

H. R. Bryson (May 25): Brown spots occurring in wheat south of U. S. Highway 24, western Kansas, were caused by the presence of brown mites.

Oklahoma. F. A. Fenton (May 22): The brown mite (Tetranychina tritici Ewing) was a serious pest in wheat in the southwestern part of the State.

Texas. R. K. Fletcher (May 8): Mites, possibly Tetranobia longipes Banks, taken from wheat in Dallas County. (Det. by E. A. McGregor.)

CORN

CORN EAR WORM (Heliothis armigera Hbn.)

Georgia. T. L. Bissell (May 10): A few eggs on tomato leaves at Clarkston, central part of the State. Evidence of larvae feeding on leaves, but none found. (May 19): Injuring corn leaves at Experiment, starting on the open leaves and going into the bud. The largest are about 3/8 inch long. Attacking corn planted on April 5, rather than younger corn. Corn following Austrian peas at Experiment now attacked by corn ear worm. More abundant in the whole field than other insects. Corn now showing bud injury.

P. M. Gilmer and P. A. Glick (May 6): A few specimens noted in Tift, Berrien, Lowndes, Echols, and Cook Counties, southern Georgia. In one or two vetch fields, some injury to peach with vetch cover observed. None on cotton.

Florida. H. T. Fernald (May 22): Corn in the markets at Winter Park shows considerable injury.

Mississippi. C. Lyle (May 23): Larvae received from Pearl River County, where small Satsuma oranges were injured, and from Forrest County, where they were feeding on corn plants.

Louisiana. C. O. Eddy (May 25): Exceedingly abundant on the silk of early sweet corn.

Illinois. R. A. Blanchard (May 11): Hibernation cages located both in sandy and prairie-type soils in east-central Illinois failed to show any pupal survival following the winter of 1938-39.

Missouri. J. M. Magner (May 11): Pupae survived the winter of 1938-39 in hibernation cages in unprotected soil in the vicinity of St. Louis. A cage in light sandy soil showed 23-percent survival, whereas a cage in clay loam soil had only 3-percent survival.

California. R. E. Campbell and J. Wilcox (May 19): A 10-acre field, with ears about two-thirds grown, was badly infested in Orange County, southern California; over 50 percent of the ears already infested, and many eggs on the silks. In another nearby 10-acre field of younger corn, from 20 to 30 percent of the tassels were infested. In a third still younger field, an occasional larva was feeding on the foliage.

EUROPEAN CORN BORER (Pyrausta nubilalis Hbn.)

Massachusetts. A. I. Bourne (May 23): In the Connecticut Valley section of Hampshire County, approximately 20 to 25 percent of the overwintered larvae have pupated. Where areas were flooded by the hurricane last September larvae have survived the winter without difficulty, and approximately the same proportion of pupation has taken place as in cornstalks grown above flood levels.

New York. L. A. Carruth (May 15): Pupation well under way on Long Island. On May 10 pupation ranged from about 20 to 32 percent in Nassau County. Last year approximately 75 percent of the borers had pupated by that date. (May 24): Moth emergence has begun on western Long Island, although it may be some time before peak emergence occurs. Spring development slower than usual. Up to May 23, approximately two-thirds of the overwintered larvae (two-generation strain) had pupated.

G. E. R. Hervey (May 15): In the Hudson Valley the first pupae were found on May 9 and on May 12 there was an average of about 9-percent pupation. No pupation in Albany County by May 10. Populations in Columbia County ranged from about 50 to 1,300 per acre.

LESSER CORNSTALK BORER (Elasmopalpus lignosellus Zell.)

South Carolina. J. G. Watts (May 10): One specimen taken from corn seedling at Blackville.

Georgia. T. L. Bissell (May 19): Corn following Austrian peas at Experiment now attacked; 4 found in 208 stalks that showed bud injury.

WEBWORM (Crambus sp.)

South Carolina. W. C. Nettles (May 22): Damaging young corn severely in Oconee County.

CORN FLEA BEETLE (Chaetocnema pulicaria Melsh.)

Virginia. S. B. Fenne (May 11): Reported in several counties of Virginia. No severe damage apparent. Slight damage in Nottaway County.

Indiana. J. J. Davis (May 24): Reported as destroying young corn at Noblesville on May 20.

SOUTHERN CORN ROOTWORM (Diabrotica duodecimpunctata F.)

Georgia. T. L. Bissell (May 11): Larvae are killing considerable corn at Experiment in a field after Austrian peas. First-generation adults now numerous on flowers.

Mississippi. C. Lyle (May 23): Larvae received from Forrest County. Reported as causing injury to corn.

Texas. R. K. Fletcher (May 22): Damage light, judging by few requests for control information.

CORN BILLBUGS (Calendra spp.)

Oklahoma. F. A. Fenton (May 22): Maize billbug (C. maidis Chittn.) reported on corn in Chandler, Lincoln County.

Arizona. E. R. Tinkham (May 23): Volunteer corn heavily attacked 5 miles southwest of Tucson; 18 adults taken from 2 small plants.

SOUTHERN CORN LEAF BEETLE (Myochrous denticollis Say)

Alabama. J. M. Robinson (May 26): Reported from Linden on May 4 as feeding on young corn; appearing in such large numbers that they were destroying the leaves and the entire stalk. Reported again from Linden on May 15.

Kansas. H. R. Bryson (May 10): Several hundred acres of corn damaged in southeastern Kansas. Injury to corn reported as far north as Garnett.

SEED-CORN BEETLE (Agonoderus lecontei Chaud.)

Kansas. H. R. Bryson (May 24): More abundant than they were last year.

ALFALFA AND CLOVER

PEA APHID (Macrosiphum pisi Kltb.)

Pennsylvania. H. E. Hodgkiss (May 15): A few found on clover and alfalfa in Lancaster County on April 19; in second and third instars.

Maryland. E. N. Cory (April 26): Reported as present in large numbers in alfalfa fields at Ridgely.

Indiana. J. J. Davis (May 24): Very destructive to alfalfa in LaGrange County in the extreme northern tier of counties, some fields being destroyed by May 10.

Illinois. W. P. Flint (May 26): Very abundant in west-central and south-central Illinois, killing alfalfa and red clover. Relatively scarce in the northeastern and the east-central parts of the State. Predators and parasites, particularly ladybeetles and aphid lions, very abundant.

Michigan. R. Hutson (May 24): A heavy infestation on alfalfa near Howell. Fungous disease, various hymenopterous and syrphid parasites, and ladybeetles and their larvae very numerous.

Wisconsin. J. E. Dudley, Jr. (May 15): First newly hatched nymphs found in alfalfa in the Madison area on April 24. Stem mothers were reproducing by May 1. By May 15 the infestation was heavier, and there was a larger proportion of alates, than usual. Early peas infested lightly on May 12.

Kansas. W. T. Emery (May 4): A light infestation in alfalfa fields at Manhattan and Topeka.

H. R. Bryson (May 23): Numerous in alfalfa fields all spring. Where no damage has resulted the crop has advanced far enough to escape injury. Still present in the field. Injury occurred to fields between Marion and Junction City. Ladybeetles numerous.

Utah. G. F. Knowlton (May 6): Increasing in abundance in the northern part of the State, but serious damage to alfalfa reported only from southern Utah. A few winged aphids collected during the last several days in northern counties.

Oregon. D. C. Mote (May 19): Aphids have continued to increase in peafields in the Willamette Valley since early April, and field peas are injured in places. In most vetch fields examined the predators have held the aphids in check. More aphids were reported as infesting the cannery peafields of Umatilla County, than any year since 1934.

M. M. Reeher (May 22): Alates began moving into late fall-sown fields on April 17. On April 20 a few early fall-sown fields of common vetch and Austrian winter field peas were beginning to show some damage to individual tips. By May 15 several early fall-seeded Austrian winter field peas began to show damage in places. Some late fall-sown peas, close to early fall-sown fields also show some injured spots. Common vetch showed some tips killed late in April and early in May. By May 9 most of these fields had been nearly freed of aphids by coccinellid larvae and beetles. Injury not serious on either vetches or field peas but probably increasing in Austrian peas, owing to few natural enemies. Fungous disease has remained at a very low point, owing to dry weather. Aphids did not increase as rapidly on Austrian peas as expected and it is believed that some of this retardation of reproduction may be attributed to the slow growth of the plants during dry weather.

ALFALFA WEEVIL (Hypera postica Gyll.)

Idaho. F. H. Shirck (May 16): Reported as unusually abundant in many alfalfa fields at Parma.

Utah. G. F. Knowlton (May 13): Moderately abundant since May 5. Found in northern part of the State and in eastern Millard County.

California. A. E. Michelbacher (May 20): Rather scarce throughout the entire lowland area of middle California. Most abundant in the San Joaquin Valley, and in several fields as many as 100 adults were collected to 100 sweeps of the net on May 18. The percentage of larvae parasitized by Bathyplectes curculionis Thoms. based on rearing records of last-stage larvae collected on May 2, is as follows: San Joaquin Valley, 92.1; area about Pleasanton, 93.3; and in the San Francisco Bay area, 89.2.

CLOVER LEAF WEEVIL (Hypera punctata F.)

Ohio. J. S. Houser (May 6): A heavy infestation is causing damage to red clover on the Experiment Station Farm at Wooster. Far more abundant than in the average year.

Michigan. R. Hutson (May 24): Fairly abundant on alfalfa at Shelby.

ALFALFA SNOUT BEETLE (Brachyrhinus ligustici L.)

New York. N. Y. State Coll. Agr. News Letter (May 1): First feeding occurred on April 25 in Oswego County. Spreading of bait began on April 27. About 3,000 acres of infested alfalfa and clover in Oswego and Jefferson Counties to be baited this spring.

CLOVER ROOT BORER (Hylastinus obscurus Marsham)

New York. N. Y. State Coll. Agr. News Letter (May 15): On May 12 the first beetles appeared on screens of cages at Oswego. Destructive in Oswego, Onondaga, Cayuga, and Steuben Counties in the summer of 1938. Most of the injury was on medium red clover, with some on mammoth but none on alsike.

California. E. O. Essig. (May 8): First report of clover root borer on vetch in California made from Eureka, Humboldt County. Occurrence rare in this State.

THRIPS (Thysanoptera)

Nebraska. D. B. Whelan (May 18): Noted as very serious in a 5-acre field of alfalfa near Ashland, Saunders County, and in experimental plantings near Lincoln, Lancaster County, on May 17.

VETCH

VETCH BRUCHID (Bruchus brachialis Fahr.)

North Carolina. J. S. Pinckney (April 24): First weevils emerging from hibernation quarters swept in the field today at Statesville.

Washington. W. W. Baker and B. J. Landis (May 20): Adults were swept from vetch in an orchard south of Husum, Klickitat County, on May 5.

GRASS

MEADOW PLANT BUG (Miris dolobratus L.)

Kentucky. W. A. Price (May 23): Very numerous on orchard grass at Lexington during May.

SUGARCANE

SUGARCANE BEETLE (Euetheola rugiceps Lec.)

Mississippi. C. Lyle (May 23): Specimens received from Marion County, where they were injuring corn.

Louisiana. J. W. Ingram (May 17): Injury lighter than usual, although there were some localities that suffered heavy losses of stand. Practically all beetles had stopped feeding by the middle of May.

YELLOW SUGARCANE APHID (Sipha flava Forbes)

Louisiana. J. W. Ingram (May 17): More abundant on sugarcane than they have been in recent years, apparently owing to the abnormally prolonged drought this spring. Injury to lower leaves observed in all fields.

CORN LANTERN FLY (Peregrinus maidis Ashm.)

Texas. R. K. Fletcher (May 22): Found heavily infesting sorghum in a greenhouse at College Station.

SUGARCANE BORER (Sesamia cretica Led.)

Egypt. A. H. Rosenfeld (April 28): Conspicuous during the last season by the very light infestations all over the Sugar Belt.

A COCCID (Pseudococcus boninsis Kuw.)

Egypt. A. H. Rosenfeld (April 28): The other most common cane insect, a mealybug, has been conspicuous during the last season by the very light infestations all over the Sugar Belt.

F R U I T I N S E C T S

FLATHEADED APPLE TREE BORER (Chrysobothris femorata Oliv.)

Mississippi. C. Lyle (May 23): Reported as causing injury to pecan trees in Simpson County the last week in April.

Nebraska. M. H. Swenk (May 18): Infestation of an elm tree reported in Burt County on May 15.

SHOT-HOLE BORER (Scolytus rugulosus Ratz.)

New York. N. Y. State Coll. Agr. News Letter (May 22): A 10-acre block of 5-year-old trees seriously damaged in Wayne County, western New York. Buds damaged on all 1- and 2-year-old wood.

Mississippi. C. Lyle (May 23): Adults from peach received from Jones County.

Washington. E. P. Breakey (May 23): Unusually abundant in Pierce County, judging from the number of reports.

RED-LEGGED FLEA BEETLE (Derocrepis erythropus Melsh.)

Pennsylvania. A. B. Champlain (May 1): Reported as heavily attacking and injuring foliage of young apple, peach, plum, and cherry trees at Dillsburg, York County, on April 25.

H. E. Hodgkiss (May 18): Causing serious damage in widely separated counties to opening buds of grape, newly set apples, and peaches. Specimens collected in Perry, Cumberland, and Indiana Counties from May 8-10.

Maryland. E. N. Cory (April 26): Reported on buds of peach at Cumberland.

A BEETLE (Euphoria sepulchralis F.)

Alabama. J. M. Robinson (May 26): A bumble flower beetle reported from Citronelle as attacking pear trees.

FLOWER THRIPS (Frankliniella tritici Fitch)

Arizona. E. R. Tinkham (April 16): Just beginning to appear in numbers at Sedona, Coconino County. Numerous enough to cause injury to peach and apple blossoms. (April 28): Late-appearing apple blossoms at Sedona killed by attack. (May 7): Attacking blackberry blossoms in large numbers at Sedona and doing heavy damage; control attempted. Greater part of the strawberry crop on a farm at Sedona destroyed by thrips, probably this species. The only berries resulted from the first flowers of the season.

TENT CATERPILLARS (Malacosoma spp.)

Washington. L. G. Smith (April 28): Damage in Whatcom County expected to be extensive to apple, cherry, and alder trees this year. Many apple trees badly infested with caterpillars and tents before the leaves were out very much. Reported from Snohomish County on April 22 that caterpillars were beginning to hatch and crawl from the nests. Some webbing found.

Oregon. S. M. Dohanian (April 28): In orchards located in northwestern Linn County 160 acres of prunes entirely defoliated by M. pluvialis Dyar; nearby peach orchard and occasional apple trees partially defoliated; and insects now invading raspberry patch, swarms being seen on first two rows but little feeding noted. Not much trouble given before, so far as known.

SAY'S BLISTER BEETLE (Pomphopoea sayi Lec.)

Ohio. J. N. Knull (May 8): Specimens received from Belmont and Muskingum Counties on April 27. Devouring blossom buds and new leaves of plum, cherry, and peach trees. Reported from only one farm in each county.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

New York. E. P. Felt (May 23): Reported as occurring in great abundance on plum at East Patchogue.

Ohio. G. A. Runner (May 24): Winter mortality apparently unimportant in northern Ohio.

EUROPEAN FRUIT LECANIUM (Lecanium corni Bouche)

Alabama. J. M. Robinson (May 26): Found on quince trees at Birmingham on May 4.

PACIFIC MITE (Tetranychus pacificus McG.)

Washington. J. B. Moore (April 28): Eggs reported as found in the Wenatchee Experiment Station orchards on April 24.

APPLE

CODLING MOTH (Carpocapsa pomonella L.)

New York. D. W. Hamilton (May 20): Pupation began in overwintering cages and in the orchard at Poughkeepsie on May 5. No adults have emerged.

Virginia. A. M. Woodside (May 22): Moths first caught in bait traps at Staunton on May 8 and began to emerge in the insectary on the same day. Oviposition proceeding rapidly.

Georgia. J. E. Webb, Jr. (May 23): Peak of emergence of overwintered moths occurred at Cornelia about the middle of May. Light egg deposition owing to cool, rainy weather, indicating a light first brood of larvae.

Ohio. T. H. Parks (May): First moths taken in bait traps at South Point, southern Ohio, on May 8 and at Delaware, central Ohio, on May 19, about the normal time for adults to emerge.

Indiana. L. F. Steiner (May 23): In the Vincennes area spring-brood moths began emerging on May 6, and activity well bunched, with peak flight extending from May 18 to 22. Tree examinations showed that 79 percent of the brood had pupated and 41 percent emerged by May 17, with 89-percent pupation and 68-percent emergence on May 22. Carry-over in most orchards about normal.

Kentucky. W. A. Price (May 23): Adults began emerging at Paducah on May 3, and emergence was heavy by the middle of May. At that time most of the overwintered larvae had pupated in the vicinities of Paducah and Princeton. First adults found at Lexington on May 19.

Michigan. R. Hutson (May 24): About 50-percent pupated at Saint Joseph.

Wisconsin. C. L. Fluke (May 19): Some larvae have not pupated. Trees in Crawford County now ready for treatment but moths are apparently very late.

Missouri and Kansas. H. Baker (May): Orchard checks indicate that 11 percent of the overwintered larvae in northeastern Kansas and northwestern Missouri had pupated by April 21, and 50 percent by May 3. First moths caught in bait traps on May 10, and bait-trap catches heavy since May 15. No eggs found in an examination made on May 12, and only a few on May 17.

Missouri. L. Haseman (May 24): Owing to the peculiar spring, emergence of overwintered generation pretty well bunched over the State. From the north to the south records indicate a difference of only a few days in the peak of spring moth emergence, ranging from around May 17 to May 23 and 24.

Kansas. H. R. Bryson (May 27): Abundant in Doniphan County on May 25, as well as in other localities.

Oregon. B. G. Thompson (May 17): Now active and more eggs deposited during the last 6 days than in normal years. Egg laying began about 2 weeks earlier than in a normal season in the Willamette Valley. (May 19): Many larvae found under bark on trees have not pupated.

Washington. E. J. Newcomer and E. R. Van Leeuwen (May 18): Continued warm weather has brought out large numbers of moths in the Yakima Valley, and nightly bait catches high, reaching a maximum on May 12 to 14. First eggs found on May 1 and first larvae on May 15.

EASTERN TENT CATERPILLAR (Malacosoma americana F.)

Maine. F. H. Lathrop (May 10): Small nests noticed in wild cherry trees along roadsides in Kennebec County. Nests apparently about as numerous as last year.

Vermont. H. L. Bailey (May 26): Infestation irregular. Extremely heavy in sections, particularly in Washington County, central Vermont. Lighter than last year over a considerable area. Hatching first noted at Montpelier on May 7.

Massachusetts. A. I. Bourne (May 23): Found hatching in Amherst on May 3-4. Observations in Plymouth County showed first larvae appearing about May 1. Along roadsides webs were beginning to be quite conspicuous but, although numerous, apparently not quite so abundant as last year or the year before.

New York. E. P. Felt (May 23): Somewhat common in New York State west to Syracuse.

R. E. Horsey (May 23): Although a considerable number of nests are to be seen, especially along neglected fence rows of wild cherry and apple, there are not as many nests at Rochester as in the last 2 years. Observed on Japanese quince, crab apple, and cherry.

New Jersey. F. A. Soraci (May 5): Very abundant in spots in New Jersey, south of a line from Phillipsburg to Elizabeth. Practically no injury in the northern part of the State. Hatching began about April 18 in the Trenton area. Attacking mostly Prunus sp.

Pennsylvania. C. W. Collins (May 22): Present in considerable numbers on wild cherry in one or two localized areas in the northern part of Bucks County the first week of May.

Virginia. A. M. Woodside (May 22): Most of the wild cherry trees in the vicinity of Danville defoliated by May 5. Much less common in the Shenandoah Valley.

South Carolina. F. Sherman and W. C. Nettles (May 22): Less numerous than usual on orchard trees.

Michigan. R. Hutson (May 24): Very numerous about Saginaw, Harrisville, Cadillac, Muskegon, Shelby, Hesperia, and Clare.

Wisconsin. H. J. MacAloney (May 16): Common on pin cherry (Prunus pennsylvanicum) along fence rows in eastern Wisconsin. Near Milwaukee tents and caterpillars larger than at the Menominee Indian Reservation, 40 miles north. This is due to the more advanced stage of foliation.

Correction: The apple tree tent caterpillar reported by S. F. Bailey in Insect Pest Survey Bulletin, May 1, 1939, page 89, is M. californica Pack., instead of M. americana F.

FRUIT TREE LEAF ROLLER (Cacoecia argyrospila Walk.)

New York. N. Y. State Coll. Agr. News Letter (May): Appearing in orchards in the lower Hudson Valley and in the lake district.

Pennsylvania. H. E. Hodgkiss (May 18): Found on apple in Clinton County on May 10 and in Juniata County on May 9.

Illinois. W. P. Flint (May 26): Serious damage continues to be caused in the western part of the State; well distributed over southern and north-central Illinois. Larvae about half grown.

Missouri. L. Haseman (May 24): Again observed in unusually heavy numbers, and older larvae now approaching maturity. Unusually large amount of fruit on the tree being attacked by larvae and treatments have not checked them. Although only eastern Missouri was heavily involved last year, it is reported from southeastern Missouri that forest trees seem more heavily infested than orchard trees, but some damage to fruit expected.

PISTOL CASEBEARER (Coleophora malivorella Riley)

Pennsylvania. H. E. Hodgkiss (May 18): Migration to apple foliage progressing rapidly in Adams County on April 20. Leaf feeding extensive.

EYE-SPOTTED BUDMOTH (Spilonota ocellana D. & S.)

Maine. F. H. Lathrop (May 10): A few young larvae found attacking apple buds at Monmouth, Kennebec County, on May 10.

New York. N. Y. State Coll. Agr. News Letter (May): Apparently abundant in the lower Hudson Valley and also on the lake.

TENTIFORM LEAF MINER (Ornix geminatella Pack.)

New York. N. Y. State Coll. Agr. News Letter (May 8): Moths reported as beginning to emerge in an apple orchard near Milton, Hudson Valley, near the end of April. Examination of overwintering pupae indicates a parasitization of 44 percent.

APPLE FLEA WEEVIL (Rhynchaenus pallicornis Say)

Pennsylvania. H. E. Hodgkiss (May 18): A rather extensive infestation found in an apple orchard near New Castle, Lawrence County, on May 11.

Michigan. R. Hutson (May 24): Infestation reported from Eau Claire.

APHIDS (Aphiidae)

Maine. F. H. Lathrop (May 10): A few newly hatched nymphs of green apple aphid (Aphis pomi Deg.) found at Monmouth. Apparently considerable mortality of eggs during the last winter and this species is very scarce this spring. (May 15): Newly hatched nymphs of the apple grain aphid (Rhopalosiphum prunifoliae Fitch) occurred on developing apple buds in larger numbers than has been observed for 5 or 10 years. Outbreak observed as far north as Monmouth; in

fewer numbers at Jefferson, Lincoln County; and in greater numbers southward through York County. At Monmouth nymphs hatched in large numbers between May 4 and 7. More advanced aphids in York County now in the third instar. No adults observed. Number of aphids on developing buds now reduced, owing to prolonged cool weather and natural enemies. No nymphs of rosy aphid (Anuraphis roseus Baker) observed.

Vermont. H. L. Bailey (May 26): A. pomi very abundant on opening apple buds at Montpelier and Waitsfield on May 5.

New York. M. D. Leonard (May 21): A substantial infestation of apple aphids(A. roseus and R. prunifoliae) on apple first noted on May 12 at Flushing. Many leaves starting to curl. By now Adalia bipunctata L. and syrphid larvae have apparently almost cleaned up the aphids on a number of apple trees in the New York World's Fair grounds at Flushing.

N. Y. State Coll. Agr. News Letter (May): In a trip through the Hudson Valley from April 25 to 29 aphid infestation found to be the heaviest in 10 years. In the southern and central parts of the valley orchards were observed having more than 100 aphids on a single bud. Predominant species were grain and green aphids. (May 22): Heavy population of grain and green aphids reported in western New York the first of the month. By the middle of May rosy aphids were observed to be multiplying rapidly in the Hudson Valley. By May 8, in Niagara County rosy aphids had been observed as far more numerous on the buds close to the trunks than on the outsides of the trees. Dozens of buds inside had nothing but rosy aphids and outside none. As high as 16 found per bud, but outnumbered by other aphids in total numbers.

New Jersey. E. Kostal (May 2): Rosy and other apple aphids relatively scarce on growth in prepink and pink stages at Morganville, Monmouth County.

Georgia. J. B. Webb, Jr. (May 23): Cool, damp spring has resulted in the most severe rosy apple aphid injury in apple orchards in northern Georgia in years. Still present in limited numbers. Damage from 10 to 30 percent in many orchards.

Indiana. L. F. Steiner (May 4): No A. pomi observed at Vincennes. (May 11): Only a few apple grain aphids remain in the orchards in the Vincennes area. (May 23): Rosy apple aphid, almost impossible to find early in May, has increased during the last 2 weeks to such an extent that damage will be more severe in some orchards than in 1938.

Michigan. R. Hutson (May 24): Apple grain aphids extremely numerous all over the State. Alates just appearing.

Wisconsin. C. L. Fluke (May 19): Winged forms of apple grain aphid appeared on May 18, the most severe attack the writer has ever seen in Wisconsin. Very general over the entire State.

Missouri. L. Haseman (May 24): Very few complaints received and in central Missouri only an occasional tree shows any evidence of rosy aphids. Reported as showing up to some extent in northeastern Missouri in practically all orchards. Predators feeding heavily on them, so no great damage expected.

Missouri and Kansas. H. Baker (May 20): Rosy, green, and grain apple aphids very scarce in orchards in northeastern Kansas and northwestern Missouri.

Arkansas. D. Isely (May 23): Injury by rosy apple aphid began to be obvious in northwestern Arkansas during the week beginning May 15.

EUROPEAN RED MITE (Paratetranychus pilosus C. & F.)

Pennsylvania. H. E. Hodgkiss (May 18): Eggs fairly abundant on apple in Lancaster County on April 19.

PEACH

ORIENTAL FRUIT MOTH (Grapholitha molesta Busck)

New York. D. W. Hamilton (May 20): A few adults found in bait traps in apple trees two-thirds of a mile away from peaches on May 20 at Poughkeepsie.

D. M. Daniel (May 27): First twig injury noticed on May 26, rather late for the locality of Geneva.

Georgia. O. I. Snapp (May 19): Practically full-grown first-generation larvae found in peach twigs at Fort Valley, central Georgia, on April 25. First twig injury in 1938 was on March 29. Infestation this year less than that of an average year.

Indiana. L. F. Steinger (May 11): Adults appearing in traps in apple orchards in the Vincennes area since April 28. Most of these traps located not less than ½ mile from the nearest peach trees. Total caught since May 1 is 135.

Missouri. L. Haseman (May 24): Peak of spring-brood emergence on May 1 in southeastern Missouri, according to report. Heaviest emergence recorded between April 24 and May 8. A few of the first-brood larvae matured and left the twigs around May 16, and a few scattering spring-brood moths were still emerging on May 19.

PEACH TWIG BORER (Anarsia lineatella Zell.)

Arizona. E. R. Tinkham (May 10): Three first-instar larvae of the second generation found on young peaches at Sedona. Damage light at present.

Utah. C. J. Sorenson (May 21): Moderately abundant in Box Elder and Utah Counties. Overwintered brood now in pupal stage.

PEACH BORER (Conopia exitiosa Say)

Nebraska. M. H. Swenk (May 18): Reported from Pawnee County on May 14 as attacking peach trees.

Oklahoma. F. A. Fenton (May 22): Reported from Colbert, Bryan County.

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Maine. F. H. Lathrop (May 15): Adults began emerging from hibernation in experimental cages at Monmouth on May 2. Emergence slow, owing to cool weather. Apparently a heavy winter mortality in the experimental cages, as compared with the two preceding winters.

Virginia. A. M. Woodside (May 22): Abundant in the region around Crozet, but not common in the Waynesboro section. Oviposition started in the insectary at Staunton on May 8. Half-grown larvae found in peaches now.

Georgia. O. I. Snapp (May 19): Infestation at Fort Valley heavier than that of an average year. Peak of Hiley drop on April 23 and of Elberta on April 25. Peak of emergence of larvae from drops on April 29 at Fort Valley. In one case, 5,162 larvae reared from 3 pecks of drops collected on April 17 and 19 in a local orchard, representing an infestation of about 86 percent. No such heavy drop infestation known before this year, although this orchard was heavily infested last year and may represent more than the average infestation here. First pupation of the season recorded on May 12 in the orchard and on May 18 in the laboratory. This is a week later than last year but 2 weeks earlier than in 1937, and a second attack is expected this year.

J. E. Webb, Jr. (May 23): A fairly heavy drop at Cornelia, and peak of first-generation larvae emerging from drops apparently being reached this week.

Ohio. T. H. Parks (May 16): Only three punctures found on cherry and plum fruits in an orchard examined in Delaware County. No serious injury reported from southern Ohio.

Kentucky. W. A. Price (May 23): More abundant than usual in peach orchards in western Kentucky.

Illinois. W. P. Flint (May 26): Very abundant in southern Illinois. More than five times as many taken in jarring as from the same trees in 1938.

Missouri. L. Haseman (May 24): Heavy damage reported in uncultivated and uncared-for orchards in southeastern Missouri, but not generally serious in that area.

Kansas. H. R. Bryson (May 25): Evidence of injury to plums at Manhattan.

WHITE PEACH SCALE (Aulacaspis pentagona Targ.)

Virginia. C. R. Willey (May 22): Hatching at Richmond probably began on May 17 or 18, as none found on May 13, but quite a lot had hatched on a mulberry examined on May 20.

CHERRY

BLACK CHERRY APHID (Myzus cerasi F.)

New York. N. Y. State Coll. Agr. News Letter (May): Reported in some abundance in Columbia County and in considerable abundance in western New York.

Utah. G. F. Knowlton (May 20): Extremely abundant on apical leaves of young cherry trees at Farmington.

PLUM

RUSTY PLUM APHID (Hysteroneura setariae Thos.)

Mississippi. C. Lyle (May 23): Specimens received from Jefferson, Marshall, Rankin, and Tallahatchie Counties, where plum trees were being injured.

Louisiana. O. I. Snapp (May 11): Heavy infestation on bearing plum trees at McIntyre, northwestern Louisiana. Severe foliage injury.

Oklahoma. F. A. Fenton (May 22): Brown plum aphid reported on plum in Vinita, Craig County.

MEALY PLUM APHID (Hyalopterus arundinis F.)

California. L. M. Smith (May 18): Podabrus spp. present in unusual numbers in prune orchards throughout the Sacramento and San Joaquin Valleys this spring. They effected control of mealy plum aphid, not equaled in the last 30 years.

LEAF CRUMPLER (Mineola indigenella Zell.)

Texas. R. K. Fletcher (May 22): Reported from Matagorda County on plum on May 10.

PEAR THRIPS (Taeniothrips inconsequens Uzel)

Oregon. S. C. Jones (May): Prune thrips now full-grown larvae in the Willamette and Umpqua Valleys. Most larvae have entered the soil.

TERRAPIN SCALE (Lecanium nigrofasciatum Perg.)

Oklahoma. F. A. Fenton (May 22): Reported as seriously damaging plum at Muskogee, Muskogee County.

RASPBERRY

RASPBERRY FRUITWORM (Byturus unicolor Say)

New York. N. Y. State Coll. Agr. News Letter (May 22): Numerous in some raspberry plantings in the lower Hudson Valley.

Ohio. E. W. Mendenhall (May 26): Very bad on blackcap raspberries in Fairfield County.

Washington. L. G. Smith (May 5): Adults brought in on April 19 from the Puyallup district, the first ones noted this season.

W. W. Baker and B. J. Landis (May 20): Adults found on thimbleberry 1 mile south of Kelso, Cowlitz County, on May 4.

Oregon. W. W. Baker and B. J. Landis (May 20): Adults found 3 miles south of Goble, Columbia County, on May 5, apparently the first record of this species in western Oregon.

RASPBERRY ROOT BORER (Bembecia marginata Harr.)

Idaho. W. E. Shull (May 10): Local severe infestations reported at Hailey.

Washington. H. J. Wood (May 23): Active from May 5 to 15 in the Spokane Valley, and apparently more in evidence this year than in previous seasons. Found in the larval stage.

RASPBERRY CANE MAGGOT (Pegomya rubivora Coq.)

Washington. L. G. Smith (May 23): Severe infestation around Renton and Kirkland, King County, boysenberries and nectarberries being attacked. Apparently a greater amount of damage than heretofore. Infested tips of black raspberry sent in from Snohomish.

CURRANT

CURRANT FRUITFLY (Epochra canadensis Loew)

Washington. R. F. Kern (April 28): Emergence noted on April 17 around Sumner and Puyallup, a gradual build-up following to April 24.

IMPORTED CURRANT WORM (Pteronidea ribesii Scop.)

Nebraska. D. B. Whelan (May 18): Both eggs and half-grown larvae found on currants and gooseberries at Lincoln on May 7.

GRAPE

GRAPE FLEA BEETLE (Altica chalybea Ill.)

New York. N. Y. State Coll. Agr. News Letter (May 22): Observed doing considerable damage to grapes in Erie County, western New York, on May 18.

Ohio. J. S. Houser (May 12): Rather widespread damage caused in a 5-acre vineyard located near a woodland at Canton. Developing buds hollowed out by adults.

GRAPE LEAF FOLDER (Desmia funeralis Hbn.)

Ohio. E. W. Mendenhall (May 26): Quite badly infesting grapes in and around Columbus.

GRAPE BERRY MOTH (Polychrosis viteana Clem.)

Ohio. G. A. Runner (May 24): Emergence of adults in field cages in vineyards near Sandusky began during the fourth week in May, the time being about the average of previous years. Only a few moths have emerged, this early emergence of a small percentage of the total before the blossoming period of grapes being normal for the overwintered brood.

LEAFHOPPERS (Cicadellidae)

Ohio. G. A. Runner (May 24): Overwintered adults of grape leafhoppers began feeding on grape foliage in the Sandusky area during the third week in May. Large numbers still congregated about green plants in vineyards, especially on chickweed and dandelion. Counts from a collection from grape on May 23 showed that 62 percent were the three-banded grape leafhopper (E. tricincta cymbium McA.). E. comes Say was next in abundance. Five species altogether represented in the collection.

Utah. G. F. Knowlton (April 29): E. comes survived the winter in large numbers in Utah County, and small nymphs are already appearing in some vineyards. Adults increasing in abundance upon Virginia creeper and some still scattered upon miscellaneous vegetation. Grape leafhoppers seriously spotting and bleaching strawberry and raspberry foliage near grapes in a field north of Farmington. Only a few present on the small grape leaves in this vineyard.

Washington. L. G. Smith (May 5): Request for control information as to grape leafhoppers received from Zillah, in the Yakima Valley.

Arizona. E. R. Tinkham (May 8): Considerable numbers of adults of Dikraneura cockerellii Gill. present in grape orchards 3 miles south of Sedona, but no larvae.

ONION THRIPS (Thrips tabaci Lind.)

California. S. F. Bailey (May 25): Specimens sent from Calipatria, Imperial County, on April 25. Damage severe locally; dropping of blossoms caused and small fruit injured.

A MITE (Tetranychus willamettei McG.)

California. L. M. Smith (May 18): Unusual numbers occurring on grapes, at Vernalis, San Joaquin County, this spring. (Det. by E. A. McGregor.)

PECAN

A TORTRICID (Cacoecia infumatana Zell.)

Louisiana. K. L. Cockerham (May 2): First noticed this year on May 1 as seriously defoliating large seedling pecan trees at Opelousas, southwestern Louisiana. Supposed to be a new pecan pest in the State. Very serious pest at Opelousas last year. Large trees completely defoliated and covered, both trunk and limbs, with a silvery sheen. With injury beginning so early in the season, severe damage is expected. (Det. by H. W. Capps.)

APHIDS (Phylloxera spp.)

Mississippi. C. Lyle (May 23): Pecan leaves with many phylloxera galls received from Amite County. Practically every leaf on a 10-year-old tree reported as infested. Pecan twigs infested with P. devastatrix Perg. received from Humphreys County on May 20.

Texas. R. K. Fletcher (May 22): Pecan phylloxera, probably P. caryaecaulis Fitch, reported from Matagorda County on May 10; from Galveston County on May 8; and from Colorado County on May 17.

WALNUT

A SPITTLEBUG (Cercopidae)

Arizona. E. R. Tinkham (May 20): Very small nymphs found attacking small English walnuts in material sent in from Oak Creek Canyon, 8 miles north of Sedona. Damage slight but increasing, and may be considerable later.

CITRUS

CITRUS THRIPS (Scirtothrips citri Moult.)

California. S. F. Bailey (May 25): Grapes in a vineyard adjoining a grapefruit orchard at Indio, Riverside County, severely attacked; leaves curled and shoots killed early in May.

CALIFORNIA RED SCALE (Aonidiella aurantii Mask.)

Arizona. C. D. Lebert (May 8): Two grapefruit found in a packing plant at Phoenix moderately infested. Fruit in storage from a February picking and grove infestation not yet found.

COTTONY-CUSHION SCALE (Icerya purchasi Mask.)

Arizona. C. D. Lebert (May 20): Heavy infestations observed this month on ornamentals in Phoenix, Mesa, and Tucson. Slight increase in citrus infestations and no parasites found. Several colonies of vedalia beetles placed at present with hopes of control soon.

CITRUS WHITEFLY (Dialeurodes citri Ashm.)

Florida. H. T. Fernald (May 22): Adults just beginning to appear on citrus at Winter Park, near Orlando; possibly the second generation.

Mississippi. C. Lyle (May 23): Specimens on Cape-jasmine received from Adams County; reported from Copiah County.

GREEN CITRUS APHID (Aphis spiraecola Patch)

Florida. H. T. Fernald (May 12): Alate individuals appearing in large numbers on citrus at Winter Park.

OLIVE

BRANCH AND TWIG BORER (Polycaon confertus Lec.)

California. P. Simmons (May 12): Adults reported as damaging twigs of olive in an orchard at Fresno. Specimens and injured twigs submitted.

TRUCK-CROP INSECTS

VEGETABLE WEEVIL (Listroderes obliquus Klug)

South Carolina. W. C. Nettles (May 22): More abundant in the State during the winter than previously.

C. F. Rainwater (May 24): Two specimens collected around hibernation cages of the boll weevil at Florence. (Det. by L. L. Buchanan.)

Mississippi. C. Lyle (May 23): Adults received from Yazoo County on April 29.

Arkansas. D. Isely (May 23): Injury recorded from Lincoln County, southeastern Arkansas, during the first week in May.

CUCUMBER BEETLES (Diabrotica spp.)

New York. N. Y. State Coll. Agr. News Letter (May 15): A few twelve-spotted cucumber beetles (D. duodecimpunctata F.) jarred from apple, pear, and plum trees in western part of Suffolk County; not observed in vegetable garden.

South Carolina. J. G. Watts (May): D. balteata Lec. slightly more abundant at Blackville than at this time last year. Although injury not observed on many crops, beetle was seen on potatoes, corn, cucumbers, snap beans, lima beans, and various wild plants. Adults of D. duodecimpunctata numerous on a wide variety of plants throughout the month. Damage to cucumbers decidedly less than last year, even with the large numbers present. In addition to cucumbers, injury was observed on lima beans, snap beans, lettuce, gladiolus, cotton, turnips, and onions.

Ohio. N. F. Howard (May 23): One D. duodecimpunctata found on tomato at South Point.

FLEA BEETLES (Halticinae)

New York. N. Y. State Coll. Agr. News Letter (May 22): Cabbage flea beetles (Phyllotreta vittata F.) generally destructive to cabbage, especially in Wayne County, western New York. Flea beetles numerous and destructive to cauliflower, cabbage, and beets in Genesee, Orleans, and Niagara Counties, western New York. Potato flea beetle (Epitrix cucumeris Harr.) first observed in Suffolk County on tomatoes in coldframes, and more abundant and injurious to tomato in the western part of the county.

Nebraska. M. H. Swenk and D. B. Whelan (May 18): Western cabbage flea beetle (Phyllotreta pusilla Horn) found attacking radish plants in Hamilton County on May 5; reported on radishes at Lincoln during the first 3 weeks of May.

Kansas. H. R. Bryson (May 25): Considerable injury caused to radishes.

Idaho. L. G. Smith (May 5): Reported as injuring radish and cabbage seedlings in gardens at Moscow.

Utah. G. F. Knowlton (May 24): Serious injury caused to cabbage and peppers at Saint George on May 8. Tomatoes reported as severely damaged in gardens at Logan on May 18 and 24.

H. E. Dorst (May 20): Not serious on beets in northern Utah; damaging young tomato plants in some areas. Abundant on garden crops, such as radishes and turnips.

BLISTER BEETLES (Meloidae)

Florida. J. R. Watson (May 23): Blister beetles, particularly Epicauta cinerea Forst., abundant during the last month, attacking blossoms of Dahoon holly, potatoes, tomatoes, and many wild plants.

FALSE CHINCH BUG (Nysius ericae Schill.)

Nebraska. D. B. Whelan (May 18): Reported as present on spinach at Lincoln on May 17.

Montana. H. B. Mills (May 20): Abundant in spots on reversions growing up to Russian-thistle near Havre. On May 15 there were 40 nymphs per square foot in some areas. Very few adults.

FIELD CRICKET (Gryllus assimilis F.)

California. A. E. Michelbacher (May 20): Rather destructive to tomatoes in several places in Alameda County. Areas of serious damage rather limited and, so far as known, confined to the area adjacent to Dublin.

GARDEN CENTIPEDE (Scutigera immaculata Newp.)

Utah. G. F. Knowlton (April 29): Seed and germinating plants of peas, corn, carrots, parsnips, and other garden plants damaged in Utah County. Pest apparently gradually becoming more widely distributed in northern Utah.

California. R. Cecil (May 17): Feeding on lima bean seedlings at Ventura has reduced the stand approximately 25 percent on 160- and 20-acre fields examined. Numerous reports of poor stands apparently caused by same pest. Cool weather has retarded germination of beans planted early, favoring attack.

POTATO AND TOMATO

TOMATO PINWORM (Gnorimoschema lycopersicella Busck)

Florida. J. R. Watson (May 23): Abundant on tomatoes in Manatee County.

Arizona. C. D. Lebert (May 18): Light infestation found in two tomato fields northeast of Mesa. No other plantings within 5 or 6 miles. No other infestations located in the main tomato-growing area of Maricopa County. Damage slight. Two fields in the Lehi area, northeast of Mesa, moderately infested.

California. J. C. Elmore (May 18): Numerous on leaves of tomato vines in a few fields in the San Pedro hills, near where last year's vines survived the winter.

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

New York. M. D. Leonard (May 22): Adults reported as numerous at Roslyn, L. I., and eggs abundant now. Adults first noticed at least 2 weeks ago and eggs a week ago.

Virginia. H. G. Walker and L. D. Anderson (May 27): About normally abundant in the Norfolk area.

South Carolina. W. C. Nettles (May 22): Abundance indicated by the amount of control operations, more than in other years.

J. G. Watts (May 23): Numerous complaints received of extensive injury to potatoes in the area around Blackville. More reports than usual of injury to tomatoes.

Florida. J. R. Watson (May 23): Common on tomatoes in Alachua County.
F. S. Chamberlin (May 9): Rather abundant on potatoes in Gadsden County.

Ohio. R. H. Nelson (May 15): Adults numerous on early potato and tomato plants near South Point since May 1. Egg masses noted on both but more common on potato. (May 19): First larvae observed hatching in the week of May 16.

Iowa. H. E. Jaques (May): Observed in Monroe County.

Missouri. L. Haseman (May 24): During May large numbers of adults suddenly appeared at Columbia, feeding and ovipositing and, since May 20, newly hatched larvae have been feeding heavily on potatoes not properly treated.

Nebraska. D. B. Whelan (May 18): Eggs and adults noted at Lincoln.

Idaho. J. R. Douglass (May 15): Finding of an overwintered beetle reported near the western edge of the Twin Falls irrigation tract on May 12. Few of these beetles found there last season and infestation cleaned up.

Washington. L. G. Smith (May 23): Beetles feeding on volunteer potatoes in fields near Thorp, Kittitas County, on May 20. Planted potatoes just coming through the ground.

POTATO FLEA BEETLE (Epitrix cucumeris Harr.)

New York. M. D. Leonard (May 22): Numerous in a large planting at Roslyn, L. I., on potatoes about 3 inches high. Leaves had 10 to 15 holes each.

Virginia. H. G. Walker and L. D. Anderson (May 27): Very abundant in some sections of Accomac County.

Indiana. J. J. Davis (May 24): Flea beetles, probably this species, responsible for damage to newly set eggplant and tomatoes at Logansport on May 23.

Washington. T. A. Knoblauch (May 23): Plants in the locality of Arlington, Snohomish County, show many eastern potato flea beetles and a few western species.

R. De Grave (May 23): Heavy infestation of western potato flea beetles (E. subcrinita Lec.) reported as attacking any host plants available in the Kittitas Valley with serious damage. Control operations under way on May 15.

DARKLING GROUND BEETLES (Tenebrionidae)

California. A. E. Michelbacher (May 20): Serious damage by darkling ground beetles to newly set out tomato plants in Alameda County, injury ranging from about 2 to over 50 percent.

POTATO LEAFHOPPER (Empoasca fabae Harr.)

Virginia. H. G. Walker and L. D. Anderson (May 27): Reported as becoming moderately abundant in potato fields in Princess Anne County.

POTATO APHID (Macrosiphum solanifolii Ashm.)

Virginia. H. G. Walker and L. D. Anderson (May 27): Appearing in small numbers in potato fields in the Norfolk area.

POTATO AND TOMATO PSYLLID (Paratrioza cockerelli Sulc.)

Arizona. C. D. Lebert (May 18): A rather heavy infestation found in a field in the Mesa-Lehi area. No damage noticeable.

BEANS

MEXICAN BEAN BEETLE (Epilachna varivestis Muls.)

New York. N. Y. State Coll. Agr. News Letter (May 15): A few beetles jarred from fruit trees in western Suffolk County. Evidently just out of hibernation, but not observed in the vegetable garden.

South Carolina. J. G. Watts (May 1): First specimen of the year seen at Blackville in flight.

Georgia. D. E. Read (May 26): Slight damage to cucumber foliage, and all varieties of beans attacked at Thomasville.

T. L. Bissell (May 11): A number of egg clusters found on May 8 at Experiment, central Georgia. Insect not abundant. (May 22): Adults emerging from hibernation and becoming abundant.

Florida. J. R. Watson (May 23): Heavy infestation reported at Havana, Gadsden County, near the Georgia line.

Alabama. J. M. Robinson (May 26): Abundant at Clayton and Auburn.

Ohio. R. H. Nelson (May 11): First adult found on beans near South Point. Nine fields sampled and only one beetle found.

H. C. Mason (May 16): First adult observed at Columbus was feeding on beans at the Ohio State University Farm today.

BEAN LEAF BEETLE (Cerotoma trifurcata Forst.)

Virginia. H. G. Walker and L. D. Anderson (May 27): Unusually abundant and has done a great amount of feeding in many early bean fields in the Norfolk area.

South Carolina. F. Sherman and W. C. Nettles (May 22): Present and observed, but probably not abnormally abundant.

J. G. Watts (May 23): Rather extensive damage to young plants throughout the month at Blackville. Snap beans, lima beans, and soybeans attacked. Serious damage limited to small garden plantings, usually those not treated, no appreciable damage being observed on commercial plantings.

Georgia. T. L. Bissell (May 11): Damage heavy in one field of beans at Experiment.

Ohio. R. H. Nelson (May 10): Adults found injuring seed leaves of young bean plants near South Point. Serious injury observed in only one field.

Kentucky. W. A. Price (May 23): Considerable damage to string beans caused during May.

Missouri. L. Haseman (May 24): Reported as causing considerable damage to all varieties of beans during the last 2 weeks in the Cape Girardeau area, southeastern Missouri.

PEAS

PEA WEEVIL (Bruchus pisorum L.)

Idaho. T. A. Brindley (May 23): Large numbers emerged in Moscow on May 13 and 14, as recorded by cage and flight-trap studies.

Oregon. D. C. Mote (May 19): Peak of migration into fields from hibernation reached on May 8 in the Willamette Valley. A few taken in decreasing numbers, during the rest of the week. Control operations were begun prior to May 8 on canning peas and on May 15 on Austrian winter field peas.

Washington. L. G. Smith (May 23): Reported from Walla Walla County on May 15. Adults congregated on the border of a pea field near Dixie and averaged 5 per sweep of net; field just coming into bloom. In Walla Walla and Columbia Counties the first eggs were noted on May 9 on volunteer peas. A few found in the fields for some time but first large emergence in hibernation cages and first appearance in numbers in the fields occurred during the hot period of May 13-15.

PEA APHID (Macrosiphum pisi Kltb.)

New York. N. Y. State Coll. Agr. News Letter (May 22): Pea aphids found in Suffolk County on about 10 percent of pea plants, with an estimated population of about 20 aphids per 100 plants. In Nassau County they are slowly increasing in abundance but still relatively scarce .

H. Glasgow (May 28): Pea aphid has been moving into peas for the last week or 10 days at Geneva. Much more abundant than at this time last year.

Maryland. E. N. Cory (April 26): Reported as present in small numbers in pea fields near Cambridge.

Gertrude Myers (May 26): Abundant on canning peas near Rockville, Montgomery County. Spraying being done.

Virginia. H. G. Walker and L. D. Anderson (May 27): Early market garden peas in Norfolk and Princess Anne Counties uninjured. However, canning peas on the Eastern Shore of Virginia are heavily infested and peas are seriously damaged where proper control measures were not applied.

Nebraska. M. H. Swenk (May 18): Early garden peas attacked and injured in Valley County on May 11.

Washington. L. G. Smith (May 23): Average of 50 or more taken per sweep in a peafield near Dixie, Walla Walla County, on May 15. An abundance of syrphid fly larvae and eggs present, but very few ladybeetles.

CABBAGE

DIAMONDBACK MOTH (Plutella maculipennis Curt.)

Utah. G. F. Knowlton (May 13): Moths abundant at Utah Hot Springs. Larvae and moths extremely abundant on white-top, a weed, at Silver City and Eureka.

CABBAGE WEBWORM (Hellula undalis F.)

Louisiana. P. K. Harrison (May 12): First larvae collected on mustard on May 10 at Baton Rouge. Larvae about one-fifth grown.

CABBAGE MAGGOT (Hylemya brassicae Bouche)

Connecticut. N. Turner (May 23): Eggs appeared early in May at Hamden. Evidences of large population, but larvae developing slowly.

New York. N. Y. State Coll. Agr. News Letter (May 22): Abundant on Long Island, where maggots were reported by the third week in May. By that time eggs were numerous in the Niagara district.

H. Glasgow (May 27): Egg laying has about reached its peak at Geneva.

Virginia. C. R. Willey (May 22): Reported on May 15 that nearly all of a planting of early cabbage was destroyed at Floyd, Floyd County. Damaged plants and maggots received on May 19. Several pupated on May 22.

Indiana. J. J. Davis (May 24): An early commercial planting of radishes at Logansport was destroyed the last of April.

Idaho. L. G. Smith (May 12): Adults observed resting on seedling cabbage at Moscow on May 3.

Washington. L. G. Smith (May 12): Mature larvae found in radishes in a garden in Whitman County.

HARLEQUIN BUG (Murgantia histrionica Hahn)

Ohio. N. F. Howard (May 23): One found on old kale at South Point.

Indiana. J. J. Davis (May 24): Adults reported as very abundant on horseradish at Aurora on May 22. Large losses to late cabbage and turnip last year also reported.

Kentucky. W. A. Price (May 23): Prevalent in the Louisville area.

SQUASH

SQUASH BUG (Anasa tristis Deg.)

Iowa. C. J. Drake (May 26): Reported at Ames, Des Moines, and Olin.

Idaho. J. R. Douglass (May 9): First overwintered squash bug noted in the Twin Falls area today.

Washington. L. G. Smith (May 23): Eggs being laid on volunteer squash growing in pastures south of Pasco, Franklin County. Little squash being grown this year.

MELONS

STRIPED CUCUMBER BEETLE (Diabrotica vittata F.)

New York. N. Y. State Coll. Agr. News Letter (May 15): Found near a vegetable garden in western part of Suffolk County on May 9. Numerous beetles observed since then in the orchard while jarring for curculios.

Ohio. N. F. Howard (May 23): Very numerous in the Scioto bottoms, near Chillicothe, feeding on the cotyledons of wild cucumber. Very numerous and injurious to cucurbits at South Point, some plantings not treated immediately being destroyed as the plants pushed through the ground.

Georgia. J. E. Webb, Jr. (May 20): Damage to squash and cucumbers severe where noted at Cornelia.

A LEAF MINER (Agromyzidae)

South Carolina. J. G. Watts (May 10): Large numbers of a small fly, presumably an agromyzid, reared from cotyledons of small cantaloup plants at Blackville. Between 95 and 100 percent of the cotyledons estimated as attacked. Cucumbers and watermelons less extensively attacked.

ASPARAGUS

ASPARAGUS BEETLE (Crioceris asparagi L.)

South Carolina. J. G. Watts (May 22): More than normal numbers of adult convergent ladybeetles (Hippodamia convergens Guer.) observed at Blackville consuming large numbers of asparagus beetle eggs. Apparently responsible for keeping this insect in check in one small field of asparagus for 2 or 3 weeks.

D. Dunavan (May 22): Taken at Clemson, first record for this part of the State.

Georgia. T. L. Bissell (May 2): Beetles common on some patches of asparagus at Milner.

Michigan. R. Hutson (May 24): Asparagus beetles very numerous around Mason and Williamston.

Utah. G. F. Knowlton (May 20): Observed since May 3 damaging asparagus shoots generally throughout Weber County and in northern Davis County. Numerous larvae of all sizes present now in northern Utah localities.

Washington. L. G. Smith (May 5): Six or 8 beetles per stalk reported at Kenneydale, King County. Specimens submitted. (May 23): A survey of several fields on May 18 showed a moderate-to-severe infestation in the Sunnyside locality of Yakima County. Larvae found in abundance but few adults seen.

R. D. Shonefelt (May 16): Found attacking asparagus at Pullman. Not previously reported from this area.

R. S. Lehman (May 20): Very destructive to this year's planting of asparagus at Walla Walla.

ASPARAGUS MINER (Agromyza simplex Loew)

Washington. L. G. Smith (May 23): Many adults found resting on asparagus foliage near Sunnyside, Yakima County, on May 18.

HOPS

HOP APHID (Phorodon humuli Schr.)

Oregon. H. E. Morrison (May 12): Seasonal development in the Willamette Valley is 7 weeks in advance of the 1938 season. Infestation light.

ONIONS

AN APHID (Micromyzus formosanus Takahashi)

Virginia. H. G. Walker and L. D. Anderson (May 27): The aphid reported on page 85 of the May 1 issue of the Insect Pest Survey Bulletin has been identified by P. W. Mason as the above species.

ONION PLANT BUG (Labopidea allii Knight)

Kansas. H. R. Bryson (May 27): Reported on May 23 as causing considerable injury to tops of onions in a number of localities. Not as injurious at Manhattan as last year, possibly owing to good growing conditions for onions.

ONION THRIPS (Thrips tabaci Lind.)

Virginia. H. G. Walker and L. D. Anderson (May 27): Becoming very abundant on onions and cabbage at Norfolk.

South Carolina. J. G. Watts (May 11): An exceptionally small amount of injury observed in a 7-acre field of onions near Sycamore, Allendale County.

Florida. C. B. Wisecup (March 9): Adults observed on foliage of onions, celery, and potato at Sanford. (Det. by F. Andre.)

Texas. R. E. McDonald (April 11): A considerable amount of cotton now being replanted in the lower Rio Grande Valley, much of it owing to damage by onion thrips.

ONION MAGGOT (Hylemya antiqua Meig.)

Oregon. B. G. Thompson (May 17): Damage in western Oregon more general than last year.

A CURCULIONID (Pnigodes setosus Lec.)

South Dakota. H. C. Severin (May 9): Found doing considerable damage to leaves of radishes and turnip near De Smet. (Det. by L. L. Buchanan.)

Kansas. H. R. Bryson (May 27): Reported on May 15 as causing injury to radishes in Smith County.

PEPPER

PEPPER WEEVIL (Anthonomus eugenii Cano)

Florida. J. R. Watson (May 23): Discovered in two more counties of Florida, Charlotte, and Hillsboro. In Manatee County, for the first time, noted as doing severe damage to eggplant.

STRAWBERRY

WEEVILS (Brachyrhinus spp.)

Utah. G. F. Knowlton and R. L. Janes (May 6): One adult of B. rugoso-striatus Goeze found in strawberry patch at Farmington on May 5. Three adult B. ovatus L. found under refuse in strawberry patch at Mapleton; larvae are damaging roots.

Washington and Oregon. M. J. Forsell (May 11): No overwintering adults of B. sulcatus F. nor B. ovatus found in the Columbia River Valley, Wash., and the Walla Walla River Valley, Umatilla County, Oreg. Larvae and pupae found in the ground as usual.

Washington. E. P. Breakey (April 28): First strawberry root weevil (B. sulcatus and B. ovatus) pupae of the season found on April 26, in Pierce County. About 5 percent in the pupal stage. (May 23): About 95 percent of strawberry root weevils in Pierce County are in the pupal stage. First adult weevil reported as found on May 12.

L. G. Smith (May 12): Severe damage to strawberries by strawberry root weevil (B. sulcatus) reported throughout Snohomish County. Weevils are pupating. First pupa reported on April 28 from a field near Everett.

STRAWBERRY WEEVIL (Anthonomus signatus Say)

Maryland. E. N. Cory (April 26): Considerable damage to strawberries in Pocomoke.

STRAWBERRY FRUITWORM (Cnephasia longana Haw.)

Oregon. G. R. Ferguson (May 17): Development about 2 weeks advanced over that of the last 2 years in the Willamette Valley. First pupae found on May 13. Injury to strawberries as severe as last year but infestations more general. Injury to flax apparently about the same.

STRAWBERRY LEAF ROLLER (Ancylis comptana Froel.)

Iowa. C. J. Drake (May 26): Reported from Plainfield.

Utah. G. F. Knowlton and R. L. Janes (April 29): Adults in fields examined at Logan, River Heights, Providence, and Farmington; most abundant in fields at North Providence.

APHIDS (Aphiidae)

Georgia. T. L. Bissell (May 2): Strawberry aphids on the new leaf stems of transplanted plants at Griffin. Ants much in evidence.

Arizona. E. R. Tinkham (April 16): Plants at Sedona, Coconino County, heavily infested by Capitophorus fragaefolii Ckll. (?) and apparently being damaged.

A LYGAEID (Myodocha serripes Oliv.)

Kansas. H. R. Bryson (May 27): Specimen sent in from Moran on May 25; reported as sucking the juices from strawberry fruits.

SUGAR BEETS

BEET WEBWORM (Loxostege sticticalis L.)

Montana. H. B. Mills (May 20): Just beginning to appear as adults throughout northern Montana from May 13 to 15.

Idaho. J. R. Douglass (May 15): A flight of moths reported in the Castelford and Burley neighborhoods on May 10 and 11 respectively.

F. H. Shirck (May 15): Moths found in large numbers in a field of red clover at Homedale, Owyhee County.

Utah. G. F. Knowlton (May 8): A few moths present throughout northern Utah. Extremely abundant in an alfalfa field at Vineyard, Utah County.

C. J. Sorenson (May 21): Adults very abundant in Salt Lake and Utah Counties.

BEET LEAFHOPPER (Eutettix tenellus Bak.)

Utah. H. E. Dorst (May 20): Overwintering population in northern Utah

larger in the Promontory Point breeding area than in 1936, 1937, or 1938. Nymphs observed on April 26. Some areas averaging 25 to 30 nymphs per square foot. Long-distance migration of adults observed on May 2. Distinct increase observed on May 15. Long-distance migration of males and females large.

SUGAR-BEET ROOT MAGGOT (Tetanops aldrichi Hendel)

Utah. G. F. Knowlton (May 8): An adult collected at Farmington.

TOBACCO

TOBACCO FLEA BEETLE (Epitrix parvula F.)

South Carolina. N. Allen and assistants (May 24): Large numbers emerged in tobacco plant beds in Florence County between May 8 and 20; severe infestations for this time of year occurring in some tobacco fields.

Florida. F. S. Chamberlin (May 26): Infestations in tobacco shade fields much lighter than normal.

Tennessee. L. B. Scott (May 22): Moderately abundant in tobacco plant beds in north-central Tennessee.

SOUTHERN GREEN STINKBUG (Nezara viridula L.)

Florida. F. S. Chamberlin (May 15): Causing some damage in fields of sun-grown tobacco throughout the Gadsden County area.

TOMATO WORM (Protoparce sexta Johan.)

South Carolina. N. Allen and assistants (May 24): A few eggs and an occasional larva observed on field tobacco plants in Florence County since May 16.

TOBACCO BUDWORM (Heliothis virescens F.)

South Carolina. N. Allen and assistants (May 24): Present on tobacco in Florence County from May 16 to 20 in sufficient numbers to warrant control measures.

CORN ROOT WEBWORM (Crambus caliginosellus Clem.)

Tennessee. L. B. Scott (May 22): Less abundant in north-central Tennessee than for several years. Infestation on wild hosts light to moderate, and it is not expected that this pestwill cause serious damage to tobacco.

MUSHROOMS

A MITE (Rhizoglyphus phylloxerae Riley)

Ohio. A. C. Davis (March 30): Collected on mushrooms at Port Clinton in March. (Det. by H. E. Ewing.)

COTTON INSECTS

BOLL WEEVIL (Anthonomus grandis Boh.)

South Carolina. F. F. Bondy and C. F. Rainwater (May 27): Very active, as the week has been warm in Florence County. A total of 175 weevils removed from cages during the week, as compared to 21 in 1938. Examinations in the field show generally more weevils in the field for the week than in 1938, as follows: 1 to 43 plants in 1939; and 1 to 128 in 1938. Emergence from cages in May totaled 635 this year, as compared to 216 in 1938. Trap-crop and screen-trap catches less than in 1938.

Georgia. P. M. Gilmer and P. A. Glick (May 20): Practically all fields in Dooly, Tift, Cook, Lowndes, Berrien, and Echols Counties show infestation; those planted in the vicinity of old fields quite heavily infested in spots. Fields remote from hibernating quarters or from old cotton have light infestations, averaging from 1 to 3 weevils per 1,000 plants. Average is about 1 to 2 weevils per 500 plants in large fields and from 4 to 6 per 500 in small fields.

Florida. C. S. Rude and L. C. Fife (May 27): Found in several fields in Lake County. Heaviest population noted to date was 17 weevils per 100 plants in a field that was in cotton last season. None found in Lake County in 1938 until about August 1. Many farmers using control measures. Light populations found in each of the fields where experimental plots are located. In treated and untreated fields examined in Alachua County infestation ranged from 0.5 to 78 percent; in Union County from 0 to 10 percent; in Marion County from 2.6 to 27.8 percent; in Gilchrist County from 0.2 to 12.2 percent; and none found in Putnam County. For the same period last year infestation in these counties ranged from 0 to 14 percent, but cotton was not so far advanced as this season. Stub cotton in some old fields is heavily infested.

Mississippi. E. W. Dunnam, et al. (May 27): In Washington County 9 weevils found on 150 cotton plants next to woods. Plants in the 6-leaf stage. This area yields weevils earlier, as cotton is usually seeded earlier than in other fields examined.

Louisiana. R. C. Gaines and assistants (May 27): Weevils removed from hibernation cages in Madison Parish through the week ended May 26 totaled as follows: 311, or 0.89 percent, in 1939; and 310, or 0.89 percent, in 1938. Total taken on field flight screens for the week was 7, as compared with 5 in 1938 and 3 in 1937. Population in fields in Madison Parish has averaged almost the same as in 1938, 194 being found on 41,000 plants inspected, or 1 per 211 plants.

Texas. F. L. Thomas (May 24): Weevils continue to emerge from hibernation quarters and now exceed average survival; already occurring in noticeable numbers near hibernating quarters.

RED-HEADED FLEA BEETLE (Systena hudsonias Forst.)

Louisiana. P. K. Harrison (May 12): Observed as attacking cotton and doing moderate-to-severe damage in the Baton Rouge area. Smartweed, a wild host, was growing on turn rows and also being attacked.

COTTON LEAF WORM (Alabama argillacea Hbn.)

Texas. F. L. Thomas (May 12): First leaf worm of the season found in Cameron County on May 4, a three-fourths-grown larva being collected at San Benito.

R. L. McGarr, et al. (May 20): First record for this season in Calhoun County made on May 17, when two leaf worms were taken from cotton on a farm 7 miles west of Port Lavaca. One larva about full grown.

PINK BOLLWORM (Pectinophora gossypiella Saund.)

Texas. H. S. Cavitt (May 27): Total moth emergence somewhat lower than last week. Only 11 moths from winter-buried and irrigated treatments. A big drop in emergence from the cocoon series, 37 as compared with 62 last week. All but 3 moths emerged from cocoons not disturbed following installation of the larvae. Only 3 moths emerged from thurberia bolls this week, as compared to 15 last week. Apparently emergence from these bolls is practically over.

APHIDS (Aphiidae)

South Carolina. C. F. Rainwater (May 20): Observations this spring in Florence County have brought out more forcibly than before the fact that Trifidaphis phaseoli Pass. is the most serious root aphid on cotton. Usually a heavy mortality to seedling cotton wherever it occurs. One severely infested field in this vicinity has not more than 25 percent left of the plants that came up.

Arizona. E. R. Tinkham (May 12): Aphis gossypii Glov. quite abundant on cotton at Continental, Pima County, but heavily parasitized.

COTTON FLEA HOPPER (Psallus seriatus Reut.)

Texas. F. L. Thomas (May 24): With the exception of a few fields in southern Texas, flea hoppers have not done much damage to early planted cotton. There has been a substantial increase in the numbers of young flea hoppers which practically doubled during the last week in Calhoun County. Hatching of overwintered eggs apparently nearly over in southern Texas, but in central Texas considerable numbers have hatched since the rains. In northern and northwestern Texas the hatch is running into fairly large numbers.

A WHITEFLY (Trialeurodes sp.)

Arizona. T. P. Cassidy (April): Beginning to appear generally on seedling cotton in the Tucson area, but only one field found where infestation is heavy enough to be noticed. No damage reported.

THRIPS (Thysanoptera)

South Carolina. J. G. Watts (May 10): Sericothrips variabilis Beach and Frankliniella fusca Hinds have been doing a little damage to seedling cotton at Blackville, more than in 1938 but less than normal.

C. F. Rainwater (May 20): Thrips appeared suddenly in Florence County. Last week practically none on cotton and this week a heavy infestation. Apparently they came to cotton at the time the first small grain was being harvested.

F. F. Bondy and C. F. Rainwater (May 27): Some damage to young cotton in Florence County, but not severe and less than in 1938.

Mississippi. E. W. Dunnam, et al. (May 27): Of 44 plants examined on May 25 at the experiment station in Washington County, 1 was infested with 1 thrips; on May 26 of 75 plants, 25 were infested with 31 thrips; and of 75 other plants, 19 were infested with 21 thrips.

Texas. F. L. Thomas (May 6): Some damage continuing to cotton in most sections of the State. More abundant than usual in the southern and central parts of Texas since spring began. Early increase, stimulated by the mild winter and the cool, dry weather of the last few weeks, has retarded the growth of cotton so that feeding by thrips has caused leaves to curl and on some plants killed terminal buds.

A CRICKET (Anurogryllus muticus Deg.)

Mississippi. C. Lyle (May 23): Specimens received from Smith County with statement that they were causing injury to corn, cotton, and other plants.

FOREST AND SHADE-TREE INSECTS

CANKERWORMS (Geometridae)

Connecticut. E. P. Felt (May 23): Fall cankerworms (Alsophila pometaria Harr.) relatively scarce, although a few have been reported in southern Connecticut.

Ohio. T. H. Parks (May 22): Spring cankerworms (Paleacrita vernata Peck) and the fall species both very abundant and seriously defoliating elm trees along streams in the central counties of Ohio. Spring cankerworms began hatching the first week of May and the fall cankerworms a few days later.

Illinois. W. P. Flint (May 26): Outbreak resulted in heavy defoliation of woodland elms and unsprayed apple trees throughout the northwestern and west-central parts of Illinois. Thousands of elms and honey locusts in this area almost completely defoliated. Nearly all farm orchards in same condition. Parasites relatively scarce. Larvae through feeding over nearly all the area except the extreme northern part.

South Dakota. H. C. Severin (May 12): Much trouble at present in Charles Mix and Jackson Counties. At Brookings elm and oak are badly defoliated.

Iowa. C. J. Drake (May 26): Spring cankerworm extremely abundant throughout most of the southern half of the State, and some infestation here and there in the northern counties. Many elm and apple trees in the vicinity of Des Moines entirely defoliated. Although spring cankerworm by far the dominant species, some fall cankerworms found. More damage done to elm and unsprayed apple trees in southern Iowa than for several years.

Missouri. L. Haseman (May 24): Spring cankerworm more destructive than ever known before in the Kansas City area, particularly in the country surrounding Columbia, and, judging by reports, in other parts of the State. Dozens of large mature elms completely stripped of foliage. Reported as very serious along the Mississippi River, in northeastern Missouri, with the heaviest infestation in the St. Louis area.

Nebraska. M. H. Swenk (May 18): Inquiries as to control of spring cankerworm on elm and other shade trees received from Harlan, Douglas, and Otoe Counties on May 5, 8, and 10, respectively.

Kansas. H. R. Bryson (May 25): More abundant than usual. Injury to elms and apple trees extended almost as far west in the State as apples are grown. Almost complete defoliation in many localities. A smaller population of caterpillars in cities where control work was done last year.

H. B. Hungerford (May 22): Scattered reports of severe local infestation of spring cankerworm at Kansas City; at Lawrence injury is severe in small areas.

J. R. Horton (May 6): Spring cankerworms began to appear in considerable numbers at Wichita almost as soon as the trees began to come into leaf. A large percentage of street and yard elm and maple trees all over the city now almost completely defoliated. Webbing very conspicuous. Similar outbreak last year stopped short of extensive defoliation such as this.

FOREST TENT CATERPILLAR (Malacosoma disstria Hbn.)

General. E. P. Felt (May 23): Hatched in southwestern New England, and westerly from Pittsfield, Mass., to Syracuse, N. Y. Probabilities favor serious though spotted injury in this territory.

Vermont. J. V. Schaffner, Jr. (May 23): In Vermont and western Massachusetts, where there have been outbreaks during the last 3 or 4 years, although egg clusters are still very common in many localities, infestation in general has decreased considerably. Counts made in several widely separated localities indicate the average egg deposit in 1938 as 50 percent less than in 1937. Eggs still rather abundant in some localities. Infestation heavy on a great many shade trees in Barre. Hatching was unusually late this year; not general in this area until the first week in May.

Pennsylvania. H. E. Hodgkiss (May 18): Observed on forest trees in Wyoming County on April 26.

South Carolina. W. C. Nettles (May 22): Tupelo gum trees defoliated in the eastern part of the State.

Oregon. S. C. Jones (May 15): In the Tennessee Valley district of Linn, Lane, and Marion Counties, number of tents per prune tree from 17 to 55, averaging more than 30, in April and to the present. Mostly full grown. Some eggs just beginning to hatch, however. The coast tent caterpillar (M. pluvialis Dyar) is the principal species in this district, but the forest tent caterpillar is also present. Parasitization high and many diseased. Other hosts infested are cherry, pear, apple, and filbert. Much more abundant than last year.

GREAT BASIN TENT CATERPILLAR (Malacosoma fragilis Stretch)

California. K. A. Salman (May 13): On April 18 small tents and caterpillars found to be abundant on bitter brush (Purshia tridentata) near Hall's Flat, Lassen County. Last outbreak on this area noted in 1930.

TENT CATERPILLARS (Malacosoma spp.)

Utah. G. F. Knowlton and F. C. Harmston (May 8): Entire groves of trees at Rockville and Springdale, southern Utah, largely stripped of leaves.

G. F. Knowlton (May 15): Willows and plums damaged on farms at Holladay.

GYPSY MOTH (Porthetria dispar L.)

Pennsylvania. A. F. Burgess (May 16): Check-up at and in the vicinity of the infestation northeast of Pittston, in the township of Damascus, Wayne County, recently completed with negative results.

FALL WEBWORM (Hyphantria cunea Drury)

Louisiana. O. I. Snapp (May 11): Nests of half-grown larvae observed on button willow at Minden, northwestern Louisiana.

A GEOMETRID (Lycia ursaria Walk.)

Missouri. L. Haseman (May 24): Reported on May 19 as being quite destructive to foliage of trees in the St. Louis area. Same pest reported as of considerable importance in that area last year. Feeding on foliage of oak, poplar, Chinese elm, and a number of other trees.

FIR FLATHEADED BORER (Melanophila fulvoguttata drummondi Kby.)

California. K. A. Salman (May 13): Two adults removed from open-surface evaporimeters near Cornaz Lake, Shasta County, on April 18. This is an extremely early flight record for this area.

A SCOLYTID (Pterocyclon mali Fitch)

Pennsylvania. E. J. Udine (May 18): Flying in large numbers in woods on March 11 at Doubling Gap, Cumberland County. Reported as attacking hardwoods and apple. (Det. by M. W. Blackman.)

ASH

A SAWFLY (Tomostethus multicinctus Rohw.)

Virginia. R. A. St. George (May 16): Larvae feeding on foliage of young ash tree at Arlington on May 15. (Det. by R. A. Cushman.)

AN APHID (Prociphilus fraxini-dipetalae Essig)

California. K. A. Salman (May 13): Ash trees planted for several miles along the highway east of North Sacramento observed on April 9 as severely injured, new leaves being curled, dried, and shriveled. Abundant on leaves and twigs of the injured trees, but relatively scarce on the less severely injured or uninjured ones. (Det. by E. O. Essig.)

A MIRID (Neoborus illitus Van D.)

California. K. A. Salman (May 13): For several miles along the Lincoln Highway east of North Sacramento ash trees were seen on April 9 to be severely injured, especially the new leaves. The ash bug was abundant on injured leaves and twigs.

BIRCH

BRONZED BIRCH BORER (Agrilus anxius Gory)

Iowa. C. J. Drake (May 26): Reported as emerging from birch trees in Des Moines. Many birches killed in this city last summer by this borer.

BOXELDER

BOXELDER BUG (Leptocoris trivittatus Say)

Virginia. A. M. Woodside (May 22): Common enough to cause a few complaints.

Indiana. D. W. LaHue (May 23): Large numbers observed flying on April 22 and 23 in the vicinity of La Fayette.

Wisconsin. E. L. Chambers (May 22): Many reports received from the southeastern part of the State.

Iowa. H. E. Jaques (May): Reported in Emmet County, northern Iowa, and Washington and Henry Counties, southeastern Iowa.

Nebraska. M. H. Swenk (May 18): Received from Sarpy County on April 27, and from Saunders County on April 28.

Kansas. H. R. Bryson (May 23): More abundant than last year and indications show that they are returning to their usual abundance. Nymphs numerous and feeding on the fallen seeds of soft maples.

Utah. G. F. Knowlton (May 8): Nymphs becoming abundant throughout northern Utah.

ELM

MOURNING-CLOAK BUTTERFLY (Hamadryas antiopa L.)

Virginia. F. R. Freund (May 22): Larvae feeding on elm at Richmond collected on May 10, pupated on May 11, and emerged on May 22.

A. M. Woodside (May 22): Many young elm trees near Staunton defoliated by some chewing insect.

Nevada. G. G. Schweis (May 19): Investigation of calls about prevalence of black caterpillars on willow and elm trees revealed these larvae.

California. G. H. Kaloostian (May 4): Full-grown caterpillars collected on April 21 at Fresno emerged on May 4 after remaining in the chrysalid stage for 9 days at room temperature.

ELM LEAF BEETLE (Galerucella xanthomelaena Schr.)

General. E. P. Felt (May 23): Indications in southwestern New England and eastern New York State favorable to general and possibly severe injury.

Vermont. H. L. Bailey (May 26): Adult noted at Winooski, Chittenden County, on May 11 but no evidence of feeding.

Ohio. E. W. Mendenhall (May 26): Evident in Columbus on elm trees.

Utah. G. F. Knowlton (May 5): Adults moderately abundant upon a few young elm trees at Smithfield.

Oregon. D. C. Mote (May 19): Egg laying first observed in the Willamette Valley about May 10. Many egg clusters observed since then. Hatching first observed on about May 17. Very few eggs have hatched.

LARGER ELM LEAF BEETLE (Monocesta coryli Say)

Virginia. L. D. Anderson and H. G. Walker (May 27): Examination of soil under elm trees, which were heavily infested last year at Norfolk, showed that 2 percent are in the larval stage, 91 percent in the pupal stage, and 7 percent have changed to the adult stage in the soil, but none have emerged from the ground. Moles observed feeding on overwintering larvae earlier in the spring.

NATIVE ELM BARK BEETLE (Hylurgopinus rufipes Eich.)

New York. C. W. Collins (May 22): Overwintered adults were beginning to make short brood burrows in elm bark and wood on May 1 in Putnam County. Adults observed in flight in Dutchess County during the week ended May 13, and recently made brood burrows 1 or 2 inches long were noted.

New Jersey. C. W. Collins (May 22): Elm tree felled at Chatham found on May 15 to be heavily attacked, after having been cut for 2 weeks.

EUROPEAN ELM SCALE (Gossyparia spuria Mod.)

Nebraska. M. H. Swenk (May 18): Request for control information received from Lincoln County on April 25.

Utah. G. F. Knowlton (May 18): Elm trees at Smithfield damaged.

LEAFHOPPERS (Cicadellidae)

Utah. G. F. Knowlton (May 12): Nymphs abundant on and damaging foliage of Siberian elm at Butlerville and Draper.

DOUGLAS-FIR

A GALL APHID (Chermes cooleyi Gill.)

Pennsylvania. E. P. Felt (May 23): The alternate generation of the Sitka spruce gall sphid occurs in abundance on some Douglas-fir in the Philadelphia area.

SPRUCE BUDWORM (Cacoecia fumiferana Clem.)

Colorado. D. DeLeon (May 24): Larvae have already emerged from their hibernacula and are feeding in the opening leaf buds of Douglas-fir in Redstone, Big Thompson, and northern St. Vrain canyons. Defoliation will be much more severe than last year and in areas only lightly defoliated last year, as there is a heavy population of young caterpillars.

HACKBERRY

A GALL INSECT (Pachypsylla celtidis-gemma Riley)

Oklahoma. F. A. Fenton (May 22): Hackberry bud gall reported from Shawnee, Pottawatomie County.

HEMLOCK

HEMLOCK BORER (Melanophila fulvoguttata Harr.)

Wisconsin. H. C. Secrest (May 17): Larvae of all instars, except the first, found on hemlock on the Menominee Indian Reservation. Winter mortality low, about 10 percent of the autumn population. Immature larvae active and feeding. Pupae and adults found in the bark of logs exposed to the sun on log decks. No emergence of adults observed. Pupation on logs and trees in the forest, where more protected from the sun, not nearly as advanced.

A LEAF MINER (Recurvaria apicitripunctella Clem.)

Wisconsin. H. J. MacAloney (May 17): Caterpillars found webbing hemlock leaves on May 17 on the Menominee Indian Reservation. Injury not serious.

LARCH

LARCH CASEBEARER (Coleophora laricella Hbn.)

Connecticut. E. P. Felt (May 23): Found in considerable numbers in Westport, and here and there in the southwestern part of the State.

Wisconsin. H. J. MacAloney (May 17): Infestation on eastern larch light, but caterpillars just beginning to tunnel in the new foliage on the Menominee Indian Reservation.

LINDEN

LINDEN BARK BORER (Chrysoclista linneella Clerck)

General. E. P. Felt (May 23): Injury observed in the Boston area of Massachusetts, at Tarrytown, also on Long Island, N. Y., and probably in the Philadelphia area, Pa. Borer confines its operations to the corky layers of the bark, not entering the cambium.

LIVE OAK

RHINOCEROS BEETLE (Dynastes tityus L.)

Florida. H. T. Fernald (May 22): Three cocoons submitted on February 10, taken from the decayed heart of a live oak. Material mostly decayed wood. Beetles nearly ready to emerge.

LOCUST

LOCUST BORER (Cyllene robiniae Forst.)

Washington. H. J. Wood (May 23): On May 10 in the northern part of Spokane larvae were just entering the cambium layer and black locust trees were covered with wet and frothy spots; about 1 week earlier than last year.

MAPLE

MAPLE BLADDER GALL (Phyllocoptes quadripes Shim.)

Connecticut. E. P. Felt (May 23): Locally numerous at Stamford.

New York. E. P. Felt (May 23): Found in abundance on soft maple at Southampton, Long Island.

Michigan. R. Hutson (May 24): First specimen received today from Wayne.

COTTONY MAPLE SCALE (Pulvinaria vitis L.)

Indiana. J. J. Davis (May 24): Abundant in northern Indiana, as evidenced by copious deposits of honeydew from soft maple trees. Evidences of destructive abundance received from as far south as Crawfordsville, in the central part of the State.

OAK

A TUSSOCK MOTH (Olene sp.)

Connecticut. E. P. Felt (May 25): Dark tussock caterpillars, probably

O. atomaria Walk., seen feeding in numbers on oak at Stamford, and have practically defoliated the lower half of small white and red oaks along roadsides.

A GALL INSECT (Andricus coronus Beutm.)

Maryland. E. N. Cory (May 8): Galls reported on oak at Chevy Chase. (Det. by E. P. Felt.)

A MIDGE (Lasioptera querciperda Felt)

Connecticut. E. P. Felt (May 23): Work of oak twig midge observed on oak at Stamford. It presumably occurs in small numbers in many localities.

WALKINGSTICKS (Phasmidae)

Louisiana. T. E. Snyder (May 12): Infestation of a large number of brown walkingsticks observed just outside New Orleans, at Gentilly. Apparently feeding on nearby oak trees and invading several houses in large numbers. Mating.

PINE

A WEEVIL (Hylobius radicis Buch.)

Massachusetts. J. V. Schaffner, Jr. (May 22): In a mixed pine plantation of some 5 or 6 acres planted about 15 years ago at Weston, about 40 percent of the trees were blown down in the hurricane of last September. Most of the trees had been girdled, or nearly so, by borers. Most of the infested trees were Scotch pine. Larvae nearly full grown on May 5. Two other inquiries received in May.

A BARK BEETLE (Pityophthorus confinis Lec.)

California. K. A. Salman (May 13): Near Glass Mountain, Modoc County, pondersoa pine reproduction suffered severe winter injury during the last winter. Needles of 1938 growth and thin-barked parts of plants the only parts injured. On April 14 adults were found infesting both injured and uninjured parts.

A WEEVIL (Pachylobius picivorus Germ.)

Mississippi. C. Lyle (May 23): Adults sent in from Newton County where they were injuring pine.

PANDORA MOTH (Coloradia pandora Blake)

Colorado. N. D. Wygant (May 19): No apparent winter mortality occurred among the small larvae overwintering on the branches of lodgepole pine at Hot Sulphur Springs, on the Arapaho National Forest. Feeding has just started for the season and a few larvae

have changed to the third instar.

A PINE NEEDLE MINER (Paralechia pinifoliella Chamb.)

Massachusetts. J. V. Schaffner, Jr. (May 19): Heavy infestations noted on May 17 in natural stands of pitch pine in Hampden County and the southern part of Worcester County, south-central Massachusetts.

A SAWFLY (Acantholyda erythrocephala L.)

Pennslyvania. E. P. Felt (May 23): Young false pine webworms, possibly this species, reported from Radnor, Delaware County, in sufficient numbers to indicate serious injury within a short time.

PINE NEEDLE SCALE (Chionaspis pinifoliae Fitch)

Virginia. F. R. Freund (May 16): Collected on mugho pine on May 15; began hatching today.

Maryland. E. N. Cory (April 26): Very heavy infestation on pine in Baltimore.

Nebraska. M. H. Swenk (May 18): Found attacking spruce trees in Perkins County on May 4.

Utah. G. F. Knowlton (May 18): Common upon pine and spruce needles at Smithfield and Logan.

SPRUCE

A NEEDLE MINER (Taniva albolineana Kearf.)

Wisconsin. E. L. Chambers (May 22): Specimens of spruce needle miner received from Marshfield with a request for control information.

SPRUCE MITE (Paratetranychus uniunguis Jacobi)

New England. E. P. Felt (May 23): Generally prevalent in the southern New England area.

Pennsylvania. E. P. Felt (May 23): Enormous numbers found on arborvitae and spruce in the Philadelphia area, and somewhat common on shaded hemlock foliage.

E. J. Udine (May 18): Abundant on spruce at Carlisle.

INSECTS AFFECTING GREENHOUSE AND ORNAMENTAL PLANTS

THRIPS (Thysanoptera)

Florida. E. W. Berger and G. B. Merrill (May 25): Cuban laurel thrips (Gynaikothrips uzeli Zimm.) on a species of Ficus were sent in from Daytona Beach on April 7 and from Englewood on March 31, localities on opposite sides of the State.

C. B. Wisecup (March 9): Adults, Frankliniella cephalica Crawf., collected on flowers of citrus at Sanford. Also collected on statice and snapdragon flowers. (Det. by F. Andre.)

Indiana. J. J. Davis (May 24): Taeniothrips simplex Morison reported on gladiolus corms from many sections of the State.

Kansas. H. R. Bryson (May 24): Nymphs and adults observed causing leaf injury to Virginia creeper at Manhattan.

OYSTERSHELL SCALE (Lepidosaphes ulmi L.)

District of Columbia. C. A. Weigel (May 4): Specimens collected on peony in Washington on April 19. (Det. by H. Morrison.)

Idaho. W. E. Shull (May 5): Infestation on all fruits and ornamentals rapidly increasing in northern Idaho. Damage severe.

South Dakota. H. C. Severin (May 12): Reported as injurious in many areas in eastern South Dakota.

EUONYMUS SCALE (Chionaspis euonymi Comst.)

New York. E. P. Felt (May 23): Reported as abundant at Farmingdale, Long Island, on Pachistima.

COTTONY MAPLE SCALE (Pulvinaria vitis L.)

Utah. G. F. Knowlton (May 9): Reported as damaging Virginia creeper vines at Antimony.

SOFT SCALE (Coccus hesperidum L.)

Virginia. C. R. Willey (May 10): Collected on English holly at Norfolk. (Det. by H. Morrison.)

AN APHID (Myzus sp.)

New Jersey. M. D. Leonard (Correction): The aphids reported on ninebark in the Insect Pest Survey Bulletin, May 1, 1939, page 95, were collected on May 12, 1938.

MOLE CRICKETS (Scapteriscus spp.)

Florida. H. T. Fernald (May 22): Observed attacking lawns at Winter Park. More abundant than usual.

ARBORVITAE

ARBORVITAE LEAF MINER (Argyresthia thuiella Pack.)

Maryland. E. N. Cory (May 22): Reported on arborvitae at Hagerstown, Pikesville, and Catonsville.

AZALEA

MULBERRY WHITEFLY (Tetraleurodes mori Quaint.)

Virginia. F. R. Freund (May 11): Adults observed on azalea at Richmond.

A MEALYBUG (Eriococcus azaleae (Const.)

District of Columbia. H. Buckholder (May 19): Infesting azalea around the Pan American Union Building. (Det. by H. Morrison.)

BOXWOOD

BOXWOOD LEAF MINER (Monarthropalpus buxi Laboulb.)

Virginia. A. M. Woodside (May 22): Very common around Staunton, and some plantings severely damaged.

CAMPHOR

CAMPHOR SCALE (Pseudaonidia duplex Ckll.)

Louisiana. T. E. Snyder (May): Quite a few small camphor trees in parks and on city streets at New Orleans have light yellow foliage.

CRAPEMYRTLE

GRAPE COLASPIS (Colaspis brunnea F.)

Louisiana. P. K. Harrison (May 31): At Baton Rouge young growth attacked, preventing plants from setting flower buds.

FIRETHORN

A MITE (Paratetranychus ilicis McG.)

California. L. M. Smith (May 18): Observed overwintering as adults, young, and eggs on Pyracnatha at San Jose. (Det. by E. A. McGregor.)

HOLLY

HOLLY LEAF MINER (Phytomyza ilicis Curt.)

Virginia. C. R. Willey (May): Two parasites reared from holly leaf miner at Richmond were Sympiesis felti Crawf. (Det. by A. B. Gahan) and Opius striativentris Gahan (Det. by C. F. W. Muesebeck). Holly collected in Richmond.

Ohio. J. S. Houser (May 4): Last year's mines from which adults had emerged this spring observed on Ilex glabra at Youngstown and Cleveland. A serious infestation.

A WHITEFLY (Aleuroplatus plumosus Quaint.)

Virginia. G. T. French (May 2): Collected on holly at Richmond. (Det. by Louise M. Russell.)

WALNUT SCALE (Aspidiotus juglans-regiae Comst.)

Virginia. C. R. Willey (May 10): Found on Japanese holly at Norfolk. (Det. by H. Morrison.)

HOLLYHOCK

A CHRYSOMELID (Calligrapha signoidea Lec.)

Utah. G. F. Knowlton (May 19): Adults seriously damaging foliage of hollyhock at Brigham City. (May 24): Reports of repeated injury to foliage of hollyhock received from Logan during the last week. (Det. by H. S. Barber.)

JUNIPER AND CEDAR

A MIDGE (Contarinia sp.)

Nebraska. M. H. Swenk (May 18): Complaints of damage to cedar trees last year from Dodge, Rock, and Redwillow Counties.

D. B. Whelan (May 18): First adult juniper midges emerged in a cage at Lincoln on May 8.

LILAC

LILAC BORER (Podosesia syringae Harr.)

Wisconsin. E. L. Chambers (May 22): Specimens from lilac sent in from Racine and Watertown.

MAGNOLIA

A SCALE (Toumeyella turgida Ckll.)

Mississippi. C. Lyle (May 23): Specimens of this scale on magnolia received from Hancock, Pike, and Wilkinson Counties.

MATRIMONY VINE

A PSYLLID (Paratrioza cockerelli Sulc.)

Arizona. V. E. Romney (April 21): Collected on Lycium sp. 5 miles west of Bylas. (Det. by P. W. Oman.)

PHLOX

PHLOX PLANT BUG (Lopidea davisi Knight)

Virginia. C. R. Willey (May 22): Observed in some gardens in northern Virginia. Nymphs collected at Woodstock on May 16; considerable damage done to young tip leaves. Other damage observed at Woodstock, Winchester, and Boyce.

RHODODENDRON

RHODODENDRON LACEBUG (Stephanitis rhododendri Horv.)

Virginia. F. R. Freund (May 15): Collected at Richmond.

A LEAF MINER (Lyonetia latistrigella Wlsm.)

Massachusetts. E. P. Felt (May 23): Work of a leaf miner, probably this species, received from eastern Massachusetts. Material did not indicate serious injury.

ROSE

ROSE SAWFLY (Caliroa aethiops F.)

Indiana. J. J. Davis (May 24): Unusually abundant in many places in Indiana.

Kansas. H. R. Bryson (May 24): Abundant on rose bushes and causing considerable injury.

BRISTLY ROSE SLUG (Cladius isomerus Nort.)

Ohio. E. W. Mendenhall (May 26): Quite bad in rose plants in and around Columbus.

Missouri. A. C. Burrill (May 16); Adults on leaves of roses at Jefferson City; slugs also present. Slight damage.

A BORER (Agrilus rubicola Abeille de Perrin)

Wisconsin. E. L. Chambers (May 22): Rose bushes seriously injured by rose stem borer throughout the State.

ROSE LEAF BEETLE (Nodonota puncticollis Say)

Maryland. J. A. Hyslop (May 31): This beetle seriously damaged the flowers of peony and iris the last week of May at Silver Spring. As many as 50 beetles were found in a single rose.

ROSE APHID (Macrosiphum rosae L.)

Indiana. J. J. Davis (May 24): Reported as unusually abundant in many sections of the State.

Wisconsin. E. L. Chambers (May 22): Early roses generally infested in the southern part of the State. No mortality from rains.

LEAF-FOOTED BUG (Leptoglossus phyllopus L.)

South Carolina. W. C. Nettles (May 22): Reported as damaging roses in Sumter County.

EUROPEAN FRUIT LECANIUM (Lecanium corni Bouche)

Utah. G. F. Knowlton (May 15): Collected while injuring rose bushes at Delta. (Det. by H. Morrison.)

SNOWBALL

BEAN APHID (Aphis rumicis L.)

New York. (M. D. Leonard (May 21): Infestation has been building up on several snowball shrubs in Jackson Heights, Long Island, for 2 or 3 weeks, and many terminal shoots badly infested and leaves curled. Alates numerous. Infestation now being checked by Adalia bipunctata and some syrphid fly larvae.

Utah. G. F. Knowlton (May 12): Reported as damaging snowball terminal leaves and blossoms at American Fork, Draper, Logan, Sandy, and Salt Lake City.

SNOWBALL APHID (Aphis viburnicola Gill.)

Wisconsin. E. L. Chambers (May 22): American snowball bushes, wherever grown in southern Wisconsin, heavily infested. Japanese varieties apparently immune.

Utah. G. F. Knowlton (May 12): Reported as injuring terminal leaves and blossoms of snowball at American Fork, Draper, Logan, Sandy, and Salt Lake City.

INSECTS ATTACKING MAN AND DOMESTIC ANIMALS

MAN

MOSQUITOES (Culicinae)

Vermont. H. L. Bailey (May 26): Larvae and pupae still abundant in flood-water pools and swampy land at Leicester, Rutland County, western Vermont, on May 25. Some adults on the wing.

Wisconsin. E. L. Chambers (May 22): Just beginning to appear in sufficient numbers to attract attention. Reported as quite numerous following recent warm rains.

Utah. G. F. Knowlton (May 20): Reported on May 13 as annoying at Utah Hot Springs, Delta, and Oasis. Very annoying to man and livestock in the fields west of Utah Hot Springs, in Weber and Box Elder Counties.

Washington and Oregon. H. H. Stage (May 15): First larvae of Aedes vexans Meig. and A. lateralis Meig. in floodwater of the Columbia and Willamette Rivers in Washington and Oregon occurred the first week in May, when the flood stage exceeded 10 feet.

SANDFLIES (Culicoides spp.)

Maryland. E. C. Cushing (May 24): Considerable annoyance began in yards and houses around Silver Spring about May 10 and continues to the present, although the numbers appear to be decreasing.

District of Columbia. E. C. Cushing (May 25): Reported as troublesome in certain parts of the District of Columbia and suburban areas.

Oklahoma. F. A. Fenton (May 22): Blood sucking midge reported on animals at Oklahoma City, Oklahoma County.

A DEERFLY (Chrysops fuliginosa Wied.)

Maryland. H. L. Dozier (May 22): First species found abundant at Cambridge along marsh edge from May 20 to 22. (Deb. by A. Stone.)

AMERICAN DOG TICK (Dermacentor variabilis Say)

Massachusetts. C. N. Smith (May 22): Unusually abundant in many parts of southern Massachusetts. Adults are between three and four times as numerous as last year on Martha's Vineyard and Cape Cod. Excessive numbers of engorged nymphs believed to have been produced on the unusually large numbers of meadow mice last summer, resulting in the increased adult population this spring.

New Jersey. J. L. King (May 31): More ticks observed than in previous years.

Pennsylvania. J. L. King (May 31): Spotted fever apparently well established in the Philadelphia area, three cases having been reported this spring in newspapers.

Maryland, District of Columbia, and Virginia. F. C. Bishopp (May 25): Reported as unusually abundant in this area.

Virginia. H. G. Walker (May 8): Collected in Norfolk, where they were reported as very troublesome. (Det. by H. E. Ewing.)

Georgia. A. L. Brody (May 20): Engorged females collected from sheep and steers at Valdosta on May 11 and 18. Average of five ticks per animal found.

Nebraska. M. H. Swenk (May 18): Found in clothing of a man in Lincoln County. Specimens received on April 25. Found on a dog at Lincoln, Lancaster County, on May 6.

ROCKY MOUNTAIN SPOTTED FEVER TICK (Dermacentor andersoni Stiles)

Utah. G. F. Knowlton (May 18): Found twice this spring on an insect net after use in the field. A few cases of spotted fever reported in northern Utah.

FLEAS (Siphonaptera)

Iowa. C. J. Drake (May 26): At Red Oak the tropical rat flea was found in dwellings infested with rats. It has been taken in a number of different places in Iowa during the last several years.

TROPICAL RAT MITE (Liponyssus bacoti Hirst)

South Carolina. F. C. Bishopp (May 20): Taken from a building in Charleston. (Det. by H. E. Ewing.)

Mississippi. C. Lyle (May 23): Received from Hinds County where they were found in a house, and from Warren County where they were collected in a warehouse.

Louisiana. T. E. Snyder (May 5): Collected from an office building in New Orleans. (Det. by H. E. Ewing)

Iowa. C. J. Drake (May 26): Found in dwellings at Red Oak, infested with rats.

CATTLE

SCREWWORM (Cochliomyia americana C. & P.)

Georgia. E. E. Rogers (April 25): Found on a calf at Valdosta.

A. L. Brody (May 20): Reported on April 28 that cases had occurred almost every week throughout the winter on a farm 6 miles from Valdosta. On May 14 hogs in Echols County were reported as heavily infested the month before, but not from December through February.

J. C. Foster (May 12): Worse in the last month than ever before at Bluffton. At least 25 cows treated recently.

Florida. E. E. Rogers (May 10-12): A survey through Madison, Jefferson, Taylor, Lafayette, Dixie, Suwannee, Columbia, and Hamilton Counties indicated the screwworm as having overwintered in northern Florida, and as increasing in numbers.

Texas. R. Melvin (April 27): On April 23 ten 3- to 4-day-old larvae collected from a calf 15 miles south of Menard. Two infestations and 15 unhatched egg masses found on April 26 on 44 head of calves examined at Menard. When these animals were examined on April 23, 5 cases of true screwworms were found by the owner. Determined that at least 1 of these cases was C. americana and that larvae were 5 to 6 days old when killed. Although numerous cases reported, these are the only authentic records available.

STABLEFLY (Stomoxys calcitrans L.)

Florida. F. C. Bishopp (May 5): Along the western coast of Florida, in Gulf, Franklin, Bay, and Walton Counties, little annoyance. Number per cow or horse ranged from 0 to 10 on the limited number of animals observed.

Iowa. R. W. Wells (May 20): Observed at Ames on May 19, but only two seen on one cow.

HORN FLY (Haematobia irritans L.)

Georgia. A. L. Brody and E. E. Rogers (May 20): Increasing in numbers during the last month at Valdosta. About 300 to 500 per animal is the average. Considerable injury noted on 1 cow.

Iowa. R. W. Wells (May 20): Observed on cattle at Ames about May 10, and on May 19 of serious annoyance to a cow. Approximately 300 feeding on the animal and considerable injury observed.

NORTHERN CATTLE GRUB (Hypoderma bovis Deg.)

Nevada. J. B. Dangberg (May 25): Many specimens received this spring, with reports of their being more numerous than heretofore in the locality of Minden. (Note by F. C. Bishopp: Reported on July 1, 1938, and an adult sent in later in the year. Species not previously known to occur south of Montana and Oregon, and is evidently spreading in the western part of the country.)

LONE STAR TICK (Amblyomma americanum L.)

South Carolina. W. C. Nettles (May 22): Presumably the worst infestation in 20 years along the coast; hogs and cattle heavily infested in Dorchester and Berkeley Counties. (Det. by Helen L. Trembley.)

GULF COAST TICK (Amblyomma maculatum Koch)

Georgia. A. L. Brody (May 20): Unengorged males and females collected from sheep, goats, and cattle at Valdosta on May 11 and 18.

HORSE

BOTFLIES (Gasterophilus spp.)

Missouri. L. Haseman (May 24): G. haemorrhoidalis L. taken for the first time this year at Columbia, reared from specimens collected from horses coming from Nebraska. Adults have been emerging since May 15. (April 27): Specimens of full-fed throat botfly larvae (G. nasalis L.) taken since the middle of April. Earliest collected ones showing evidence of pupating.

Nebraska. H. O. Schroeder (May 20): From 160 horses examined at Fort Robinson on May 17, 56 larvae of nose botfly were taken.

Utah. G. F. Knowlton (May 20): Larvae extremely abundant in two horses at Farmington, recently brought in from Blue Creek, Box Elder County.

BLACK FLIES (Simuliidae)

Missouri. G. D. Jones (May 10): A serious attack broke out in some of the river-valley sections of southeastern Missouri this spring, the worst for several years. Several animals died. Flies appeared suddenly and lasted only a few days.

POULTRY

EUROPEAN CHICKEN FLEA (Ceratophyllus gallinae Schr.)

New York. R. Matheson (May 10): Quite abundant on poultry at Syracuse.

SHEEP

SHEEP BOTFLY (Oestris ovis L.)

Georgia. A. L. Brody (May 20): Adults active at Valdosta during late April and the first week of May, when sheep were very nervous and irritated. Since May 11 sheep less affected.

SHEEP TICK (Melophagus ovinus L.)

Iowa. H. E. Jaques (May): Reported from Winneshiek County, northeastern Iowa, and Monroe County, southern Iowa.

HOUSEHOLD AND STORED-PRODUCTS INSECTS

ANTS (Formicidae)

Connecticut. N. Turner (May 23): Lasius interjectus Mayr unusually abundant in southern Connecticut. Winged females seen in many houses.

Pennsylvania. E. J. Udine (May 20): Lawn ants more abundant than usual at Carlisle. Many requests for information.

Maryland. E. N. Cory (May 22): Pavement ant (Tetramorium caespitum L.) reported in lawns in Baltimore County.

Virginia. H. G. Walker and L. D. Anderson (May 27): Reported as very abundant in lawns and houses at Norfolk.

North Carolina. R. A. St. George (May): Male flying Argentine ants (Iridomyrmex humilis Mayr) collected as they came from the side of a residence at Wilmington. (Det. by M. R. Smith.)

Mississippi. C. Lyle (May 23): Specimens of Argentine ant sent from Simpson County. Reported from Jones, Tallahatchie, and Washington Counties. Fire ants, Solenopsis xyloni McCook, received from Claiborne County; reported as nesting in a flower bed; and also reported from Lee, Monroe, and Pike Counties in gardens and flower beds. Specimens of Camponotus caryae rasilis Wheeler received from Lowndes County, with information that they were found in a house.

Louisiana. P. K. Harrison (May 31): At Baton Rouge fire ants, S. geminata F., tunnelled the stems of dahlias and ate the foliage.

Indiana. J. J. Davis (May 24): Ants in lawns abundant throughout the State.

Wisconsin. E. L. Chambers (May 22): Both the common dark brown ant (Crematogaster lineolata Say) and the carpenter ant (Camponotus herculeanus L.) very abundant now in lawns in southern Wisconsin.

Iowa. C. J. Drake (May 26): Basement ants found in cellars of buildings at Ottumwa, Webster City, Des Moines, Manson, and Alton.

South Dakota. H. C. Severin (May 12): Several species have given trouble in houses, gardens, and lawns.

Nebraska. M. H. Swenk (May 18): Mound-building prairie ant (Pogonomyrmex occidentalis Cress.) reported as working in a dooryard in Keyapaha County on May 3.

Utah. G. F. Knowlton (May 18): Numerous reports of annoyance in gardens, houses, and fields received during the last 3 weeks from various parts of northern and central Utah.

TERMITES (Isoptera)

Maryland. E. N. Cory (May 22): Reported in houses at Annapolis, Baltimore, and Ellicott City.

North Carolina. Z. P. Metcalf (April 27): Reported as attacking a house at Durham.

Michigan. R. Hutson (May 24): Reticulitermes flavipes Koll. reported from Hastings, Mason, White Pigeon, Grand Rapids, Grand Ledge, Kalamazoo, Fennville, and Plainwell.

Iowa. C. J. Drake (May 26): Heavy infestations reported in Davenport, Fort Madison, Newton, Ogden, Des Moines, and Waterloo. A number of dwellings in Ogden seriously injured.

Missouri. A. C. Burrill (May 19): First winged emergence of R. flavipes at Jefferson City reported today.

Nebraska. M. H. Swenk (May 18): Complaint of R. tibialis Banks as infesting a building in Lancaster County received on April 27. Reported as attacking living trees in Furnas and Douglas Counties on April 28 and May 8, respectively.

Oklahoma. F. A. Fenton (May 22): Reported from many localities scattered over the State.

BROWN-BANDED COCKROACH (Supella supellectilium Serv.)

South Dakota. H. C. Severin (May 12): Found infesting a dwelling at Brookings; previously reported as present in several dwellings in Sioux Falls.

LEAD CABLE BORER (Scobicia declivis Lec.)

California. D. F. Barnes and G. H. Kaloostian (May 2): First adult taken at Fresno on March 24 in a rotary net operated in a raisin storage yard. Total taken in April was 32, as compared with 291 for the same period and locality in 1938, as many as 94 being taken in 1 day.

BROAD-HORNED FLOUR BEETLE (Gnathocerus cornutus F.)

Kansas. T. F. Winburn (April 22): Specimens found in abundance in milling stock in a flour mill in Salina. Species seldom seen in Kansas.

A BEETLE (Buprestis aurulenta L.)

Washington. A. Z. Smith (May 23): An adult of the aurulent beetle reported as caught boring through flooring in a dwelling in Snohomish County.

Oregon. W. J. Chamberlin (May): Reported in ever increasing numbers until now considered major pest in houses. Damage to woodwork definitely increasing.